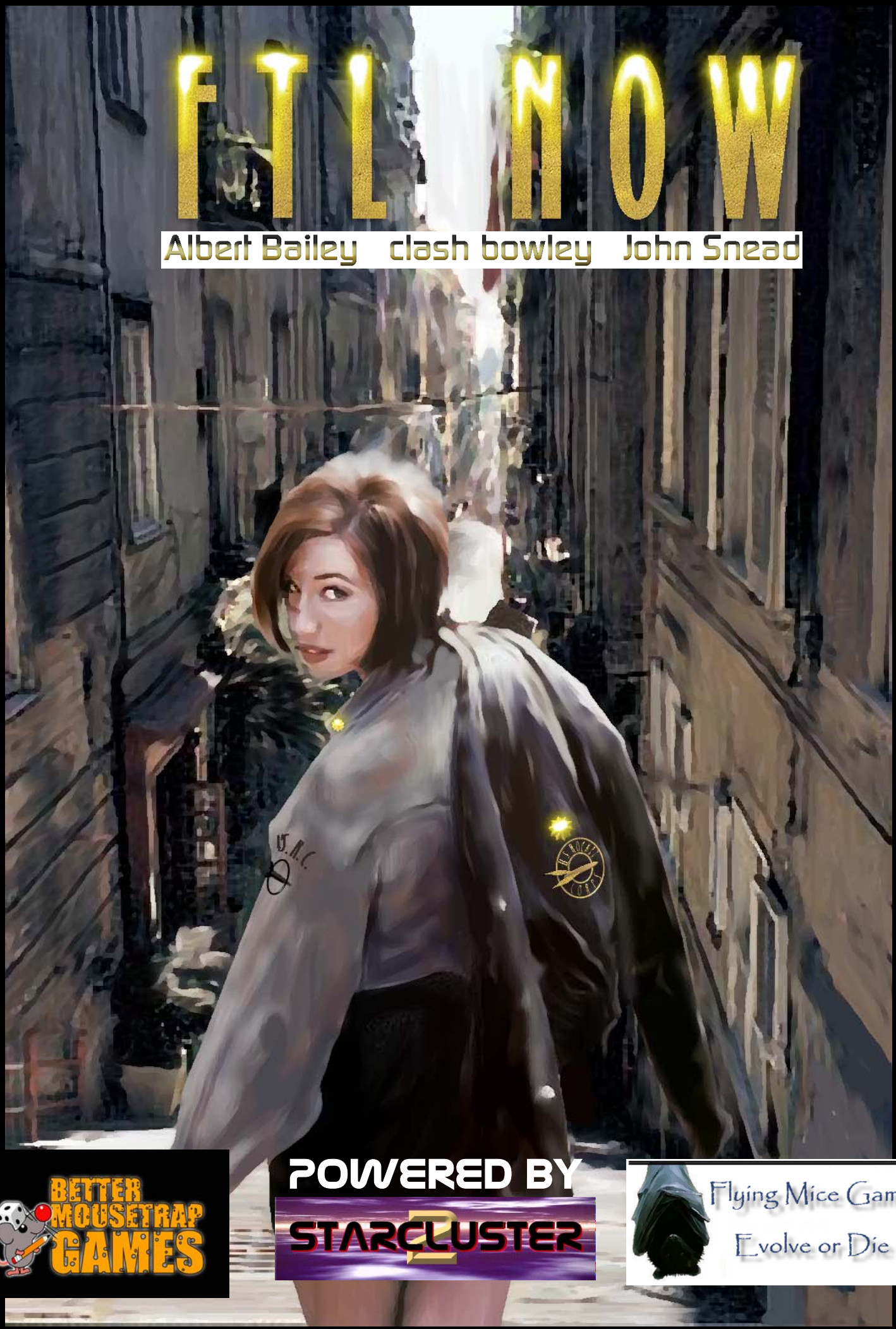

FTL NOW
Albert Bailey clash bowley John Snead
POWERED BY
BETTER MOUSETRAP GAMES
STARCLUSTER 2
Flying Mice Games
Evolve or Die

FTL Now
Role Playing Game

by Albert Bailey, clash bowley, and John Snead

Illustrated by clash bowley

Cover by clash bowley

Fiction by Ryan A. Span

Song Lyrics by clash bowley

Special Thanks to David Johansen
for the concept of trading chance of success
for quality of success
From his excellent RPG "Galactic Adventures"
Used here with his permission

And a huge thank You goes to our playtesters:

Klaxon Bowley

El Zambo

Adam Jarrell

Paul Calo

James Belmonte

Jake Mattison

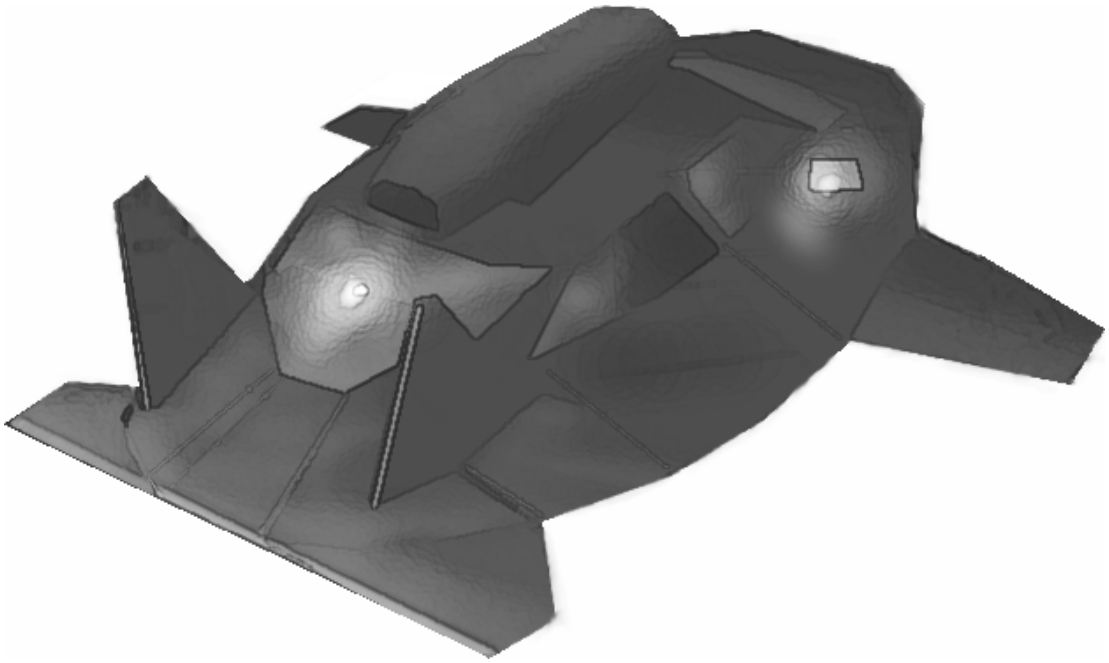
Without them, FTL Now would be nothing but a few scraps of disjointed concepts

clash bowley, 2006

Flying Mice Games

http://jalan.flyingmice.com

From Better Mousetrap Games



Summer Never Comes

Everyone's walkin' in white, y'see that
Everything's all covered in snow
Everybody's trading in hate, y'know that
They're all gettin' ready to go
All the snow
Fallin' down
On the dead
In this town
I'm gettin' too ragged to roll
Summer never comes

Shot another man in the back one mornin'
Ate him for twenty-one days
Carried his meat in a sack forever
Carry him now in my brain
It's so cold
On this road
And this horror
Is my load
I'm gettin' too ragged to roll
Summer never comes

I've eaten everything that moves, and then some
Eaten anything not nailed down
Rather eat a rat than get laid, I tell you
Did that in some Michigan town
It's so cold
I'm not proud
Teeth just chatter
Right out loud
I'm gettin' too ragged to roll
Summer never comes

Released on Luna, July 15, 2002 by AC/DC

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Sunday, November 12th, 1989

". . . For those of you just tuning in, it's-- It's incredible. There are people, there are people sitting on top of the Berlin Wall, and there's light . . . Lights everywhere. Hundreds are coming through the border checkpoints, no one is even checking their passports. I-- I hear music playing, violins. Someone's got a guitar out. No one knows what's going on. There's talk of military vehicles coming in, some people are saying the Wall's coming down. I don't know. God, I don't know, but it's amazing. We're broadcasting here from the Potsdamer Platz, the old heart of Berlin, I guess there are about . . . five or six thousand people here. Too many to count. They're dancing, and laughing. Some are wearing uniforms, East or West, it doesn't seem to matter. They're part of the crowd. There's people from Denmark and France and Belgium and all over Europe, they've driven thousands of miles to Berlin to see the Wall come down. Just, just to be here . . . I've never seen anything like it. What? Um, nein, danke schön . . . A young lady from the crowd just offered me a bottle of brandy, and now she's kissing someone, um-- You can hear . . . Do you hear singing? What is that, is that Beethoven? Is that Beethoven?"

INTRODUCTION TO FTL NOW:

The Timeline of Now

1990- 1995: The Post Cold War World

Flying Cars in Review, Star Traveler, May 1995

Remember back in the 1980s when everyone was complaining that the century was almost over but the vast majority of Americans still didn't have the flying cars that were promised in the 1950s. As we all know, this changed in 1991, with the introduction of the Toyota Aero and the Ford Zephyr. Suddenly, for between $20,000 and $25,000 anyone could own a contragravity car that could safely fly more than a third of the way around the planet in 12 hours. Those cars were not the height of comfort, their navigation systems are now almost laughably archaic, and their gas turbines were expensive to service. In addition, they were unpressurized, so they couldn't safely go more than two miles above sea level. However, they gave the freedom of the skies to the middle class. Since that time, prices for flying cars have continued to drop and their quality has gradually improved.

After that, we all knew what was coming next - the affordable lunar and orbital shuttle car. As soon as the breakthrough in orbital-made room temperature superconductors came in 1993, we knew these new would be used for something more than more impressive than better cellphones. Several models of private orbital craft were released at the beginning of the year, including the Geo Astra, with a retail price of just $30,000. Make no mistake; the Astra is the bargain basement of lunar travel. It can get you to the Moon in 90 minutes and to any orbital station in less than an hour, but you'll be profoundly glad of this fact by the time you arrive. The air recycler is only good for eight hours without recharging, the seats are not particularly large, and while the ads say it seats five, you'll be far happier carrying four. Still, it gets you there and the GPS auto-navigation is as good as on the one on the $40,000 Mercedes Sternlicht, which by the way is a joy to both drive and ride in.

Everyone is talking about the orbital Earth-Mars ferries that carry your orbit-capable car and all the passengers you can safely fit in it for under $600, round trip. However, to use these with an Astra, you'll need to pay the deluxe fare that adds an additional $200 per person, unless you like the idea of carrying along a portapotty in your already cramped back seat. Even using this ferry, if you want to travel around the solar system in anything remotely resembling economic comfort, you'll still need one of the orbital minivans, and the cheapest are still $55,000.

Naturally, wealth still has its privileges. Leer-Daimler Space announced that it was introducing a new line of "budget" interstellar vehicles for "only" $1.2 million. You still can't buy a nuclear rocket, but I'm told, not that they let me ride in one of these babies, that the latest VASIMR rockets are pretty impressive and private starships are supposed to be both roomy and ridiculously comfortable.

Meanwhile, the rest of us who can't even afford a $30,000 orbit car can take comfort in the fact that Geo claims that it will be able to cut prices by 20% within three years. Better yet, Greyhound recently reduced the cost of a round-trip Anywhere-US ticket to $50, eliminated the $10 surcharge for trips into earth orbit and reduced the additional Lunar surcharge to $20.

The previous efforts at increased Soviet openness and the fall of the Berlin Wall were followed by the dissolution of the USSR in 1991. The Cold War was officially over and the West had won. Meanwhile, the depression of the early 1990s ended shortly after the election of President Bill Clinton, when increasing numbers of Americans and other citizens of the first world began using and investing in both the internet and the newly expanded civilian applications for space. The largest of these ventures was started by the US government and soon became a massive worldwide endeavor, the construction of the solar power satellite grid.

Project Ring and the SPS Network

In 1993, newly elected President Bill Clinton took a bold step and launched the largest civilian space endeavor ever attempted. Since the energy crisis of the early 1970s, NASA and various other government and private agencies had examined the possibility of supplying the electricity needs of the United States, and ultimately the world, using a network of huge power-producing satellites in geosynchronous orbit. These satellites would generate solar power and beam this power back to Earth in the form of diffuse and harmless microwave beams. These microwaves could be easily transformed back into electricity by means of large, easy to build grid-work antennas, known as rectennas. Although these rectennas would be several miles across, they were open grid-works of thin wires that could be built on poles that sat 10 or 20 feet above agricultural fields - farming could go on undisturbed beneath them.

Although rectennas were inexpensive, simple to create, and could be easily made by the residents of any Third World nation, the satellites themselves were vast and expensive structures, consisting of huge grids of thin-film solar cells. If the dream of supplying all US demand for electricity via solar power satellites could be realized, the US would need to build a string of 50 satellites, each capable of generating 15 gigawatts. Each satellite would consist of grids of solar cells 9 miles long and 3 miles wide – the largest orbital structures ever conceived of.

Amidst cries of government waste and the impossibility of building such structures coming from several oil companies and the heads of most Middle Eastern oil-producing nations, President Clinton signed the bill for what became known as Project Ring in May of 1993. By mid 1994, the first of the satellite had been completed and the various sections were sent into orbit and assembled before the end of that year. In the following 6 years, work on these satellites increased and by the end of 2000, 37 of the proposed 50 satellites had been completed. In addition, this ambitious project had captured the world's attention. In late 1994, the arrival of the first SPS produced electricity in the US caused the EU to begin work on their own program, using ESA launch facilities and additional equipment purchased from the largely defunct Russian space program.

The initial US plan was for a partial ring of SPS that went more than 1/4 of the way around the Earth, from 150 west Longitude to 50 west Longitude. Each SPS could theoretically beam power anywhere from 80 N Latitude to 80s S Latitude. The goal of the US was to first supply its own energy needs and then to sell inexpensive, non-polluting, and inexhaustible power to the rest of the world. The EU continued this goal, and planned to build a string of 70 satellites from 20 west Longitude to 100 east Longitude. In 1996, the Japanese launched their own SPS, in 1997, Brazil and the PRC each built three starting satellites of their own and in 1998, a Malay-Singapore joint venture launched a single SPS that supplied power to all of their needs. Even Russia managed to put an SPS in orbit in 1999, but this success of this satellite was marred by the orbital catastrophe that wrecked the first satellite they attempted to put up in 1997, and killed 87 workers.

Orbital Spin-Offs

Although each SPS was constructed on the ground, it had to be towed into orbit in pieces and assembled. The nature of this massive endeavor necessitated large orbital construction crews. Although these workers were regularly rotated back to Earth, there often were as many as three satellites being assembled at once. Each required a crew of several hundred people who would live and work in orbit for at least four months, with only brief weekend visits back to Earth. Each satellite required orbital facilities capable of housing several hundred people, plus the vacuum and pressurized workshops and repair facilities they required

After a satellite was completed, its orbital "construction shack" became a prime piece of orbital real estate, complete with access to large amounts of power. Soon, the various governments responsible for funding the SPS grid were making back some of their expenses by renting or selling these facilities to corporations interested in zero-g manufacturing or vacuum industry. The already burgeoning field of space industrialization grew by leaps and bounds as easy access to large workspaces and inexpensive power made such ventures increasingly profitable.

By the mid 1990s, new orbital factories started manufacturing the recently discovered room-temperature superconductors for use in high-density power lines and advanced batteries. As prices of large superconducting batteries continued to fall, more cars began using these batteries increasing demand for electricity and driving further SPS construction.

Other corporations found other, more novel uses for some of these habitation modules. Orbital hotels had previously only been available to the middle class or the wealthy, but by 1995, the first budget orbital hotel was open for business, and the trend grew rapidly. Wedding magazines of the late 1990s discussed the joys, and the

occasional drawbacks for those prone to space sickness, of orbital honeymoons for people of all income brackets.

Other businesses soon followed suit. Orbital day spas, where fitness conscious individuals could partake of the health benefits of zero gravity became popular. By 1998, several large gymnasium chains built orbital gyms complete with workout areas and exercise machines in both zero-g and centrifugal gravity, including areas with higher than earth-normal gravity. These gyms were specifically designed so that people living on Earth could commute to the orbital gym once or twice a week. Most offered special orbital bus service to their customers who lacked vehicles capable of reaching the gym. As each new station in the worldwide SPS grid were completed, another group of habitation modules became available for other uses. The PRC, Japan, and the Singapore-Malay alliance all rapidly expanded their already large orbital facilities.

The Aftermath of the end of the USSR

With the collapse of the Soviet Union in 1991, the people of the United States gradually realized exactly how precarious the USSR's military position had been. Although the USSR had presented the appearance of being a powerful nation with a thriving space program and vast military might, much of this turned out to have been a case of boasting backed by careful showmanship. Long-hidden stories of the dozens of Soviet rockets that vanished in the depths of space, and Soviet off-world military bases stocked with half-trained troops and shoddy, malfunctioning weapons began to appear in Western newspapers and magazines. Shortly after this, Russian companies began to attempt to earn extra money by selling off thousands of mementos and once-useful items from the now defunct Soviet Space Force.

The Soviet Colonies tried to ride the gradual collapse with varying results. Novya Minsk declared its independence early and kept it, but the gulag world of Novya Sibirsk kept its ties to the last before finally going with Novya Minsk. Kazakh Colony tried to stick to a middling course and paid the price when the Soviet Space Fleet took it over in 1990. Ural Colony stayed under the radar, keeping up trade with its neighbors, and eventually won its freedom when the US recognized it in 1992. Baikal Colony suffered terribly from the disruption of trade, and applied for UN protection.

The Luna SSR kept up business as usual and when the USSR dissolved, it declared its intention to continue as before. A bloody coup followed, and the colony remained under shifting military governments until 2001. USSR Mars quietly opened its borders, and soon became a thriving Martian state. The colony on Ganymede turned itself over to the UN, while the smaller Elara colony declared itself to be part of the Refuge sphere of influence.

By 1991, an increasing number of Soviet extra-solar colonies were formally given their independence by the Russian government, in large part because the nearly bankrupt Russian spaced agency could no longer afford to resupply them. By 1993, Russian rockets were reduced to selling advertising space on their sides and the various Russian colonies, like many of the poorer nations that were once part of the Eastern Block, had to deal with both the joys and headaches of independence. Fortunately, supply ships to various colonies had been getting increasingly rare since shortly after the fall of the Berlin Wall, and most colonists had been preparing for self-sufficiency for several years. Nevertheless, once the Soviet supply ships stopped, most of these colonies experienced considerable hardship. Fortunately, civilian investment in space was at an all time high in both the US and Western Europe.

The Truth About Refuge

The location of Refuge was revealed in 1992 - or rather the Refuges. The existence of the first Refuge only became public knowledge after the fall of the Soviet Union, when Novya Minsk laid claim to them in its declaration of independence.

The Soviets had kept the existence of the twin planets of Russian and Novya Moskva in the Barnard's Star system secret, referring to them as "Pripet" and claiming they were a single, massive dry planet without an atmosphere. Nothing could be further from the truth. Though neither planet had an exploitable ecosystem, imports from Novya Minsk had quickly remedied that deficiency - the imports quickly wiped out the more primitive Pripetan flora and fauna, being native to the same red sun. These two worlds were then settled in secret by the cream of Soviet settlers.

In 1992, the leaders of Novya Minsk asked both worlds if they would join them in forming an independent federation. However, the UN stepped in and held a plebiscite, and the two colonies elected to remain part of the Russian SFSR, as all the colonists were Russian in origin. As a result, tensions between Novya Minsk and these two colonies sharply increased.

The other, true Refuge was the star once known as GJ 588, but now universally referred to as Refuge. The Sovi-

ets discovered it in 1954, and began preparing it as the final redoubt of Marxist-Leninist political thought. There are three habitable planets in the Refuge system, all of which were settled on an ongoing basis with ideological purists, who carried with them a strong military base. When the time came, the elite of the Communist party left Earth for Refuge, and remained there undiscovered until a UN probe found it in 1997.

These Refugists had given over any claim to the Earth, and refused to have any contact with the other colonies, stopping all visitors at the limits of their system and sending them back. It is thought that they have limited shipbuilding facilities, which continue to worry the other colonies. Rumors of the activities of Refugist space missions include wild tales of interstellar piracy, kidnapping, and similar activities, but almost everyone agrees that these stories owe far more to fear and exaggeration than they do to any real evidence.

Space Investment Takes Off

Beginning in the early 1990s, literally hundreds of venture capitalists came up with thousands of ideas on how to make money off of space exploration and colonization. Many, like the SPS grid and the many orbital factories built in the early 1990s were obvious choices now that the Cold War was over and fears of orbital warfare greatly reduced. However, many venture capitalists looked at the various extra-solar colonies and saw vast amounts of untapped resources and entire alien ecosystems waiting to be exploited. Some sent out ships to set up their own colonies, but many attempted to save money by striking deals with existing colonies. The financially strapped ex-Soviet colonies were hardly in a position to refuse such offers. Soldiers and engineers who had been guarding the galaxy against capitalist aggression five years earlier were now mining metals and collecting biological samples for American venture capitalists and transnational corporations.

The Dawn of the Public Internet

Back on earth, the western world became increasingly fascinated with the internet. From the late 80s to the early 90s, home computers went from being expensive devices used by hobbyists and engineers to items that were owned and used by an increasingly large portion of the population. These items were soon joined by cell phones, GPS receivers, and by the end of the century, the first actual pocket-sized computers. Not unexpectedly, consumer electronics also revolutionized space travel. With computers falling in price, and GPS networks in place around every inhabited planet, space ships were soon able to pilot themselves. By 1996, the most expensive of these automated systems were set up so that once a spaceship was airborne, the pilot merely needed to say the name of the destination or select it off of a menu and then sit back and relax – by 2000, similar systems were used in all but the oldest civilian spacecraft.

1996-2001: The Boom Years

The Interstate Highways Debate Continues, New York Times Editorial, February 1999

The latest figures that indicate that slightly more than half the private automobiles currently in use in the United States are contragrav cars, and almost 8% of all new cars sold are orbit-capable has re-ignited the debate about the role of the Federal Government in the interstate highway system. While clearly more than a third of Americans still own wheeled cars, few still use the interstate highways. All major trucking companies gave up using wheeled trucks almost a decade ago. Recent aerial photos of the interstate highways show usage to be very sparse, except in the densely populated regions surrounding the New York, Chicago, and Los Angels Metropolitan areas. One the eve of the millennium, Americans need to ask themselves, should our tax dollars really be spent maintaining what is increasingly becoming an expensive dinosaur? All predictions, including those by the major US automakers indicate that usage of the road network is going to continue to fall as even fewer new cars are made with wheels. While local road networks will continue to be essential for at least the next several decades, even people who own wheeled cars are mostly using Greyhound and other forms of low-cost air travel when they travel long distances.

As the SPS network came on-line and the general public began to embrace the internet, the US and Western Europe entered the greatest era of prosperity either had experienced since the

1960s. Public confidence in the west was at an all-time high, and throughout the entire Oikumene, humanity began to expect growing prosperity and look to the dual wonders of increasingly fast and inexpensive travel and sophisticated electronic networks. Advances in electronics, the invention of orbital-made room-temperature superconductors, and increases in civilian space travel continued to lower the cost of both space ships and space travel. New types of drives were discovered, and the old ones became smaller and more efficient. The greatest breakthrough was the development of the VASIMR plasma drive, which offered speed, thrust, and fuel efficiency more than 10 times better than the best ion drive.

By the mid 90s, the least expensive civilian spacecraft were selling new for less than two million dollars, enough for any corporation, group, or even wealthy individual to own, while older used spacecraft were selling for much cheaper - in the tens to hundreds of thousands of dollar range. Vehicles only capable on contra-grav travel were far less expensive.

Falling Borders

As both sales and production of battery-powered contra-grav cars continued to climb and their prices continued to fall, mobility in the First World increased to a degree unknown since the advent of the automobile. Computer controlled auto-navigation made these vehicles as safe as conventional cars, and most had top speeds of as high as 500 mph - they could cross the EU or the US in an afternoon. The growing popularity of these vehicles is credited as one of the major forces behind the increasing unification of the EU. This increased unity was dramatically demonstrated in 1998, when the CCA formally merged with the ESA, making the various CCA colonies officially part of the EU.

While their governments and economies remained separate and distinct, in 1997, the US and Canada initiated an open border policy. Residents of either nation could freely travel to the other and needed only a picture ID with their current address on it as proof of citizenship. Similar measures were adopted between Australia and New Zealand and political theorists began writing that the First World's borders were beginning to crumble. By late 2000, there was even talk of opening borders between the UK and the USA, but no action was taken before it became moot in late 2001.

The First and the Third World

The 2nd half of the 1990s was a time of prosperity over the entire First World. A combination of rising stock prices, high wages, and a flood of inexpensive goods made in the third world and on off-world colonies allowed residents of most First World nations to purchase goods they could have not previously afforded, including larger houses, contragrav and orbital cars, and even vacation homes on Luna or Mars. While Japan's economy remained sluggish after the collapse of their economic bubble in the earth 1990s, the US, the EU, and most of the rest of the First World prospered.

This prosperity came at a price. Sweatshops throughout the Third World and on many of the poorer extra-solar colonies, especially colonies of Third World nations and ex-soviet colonies, produced much of the endless stream of consumer goods, from sneakers to cellphones, that First World consumers demanded. In these factories, wages were often low, working conditions hard and often unsafe, and in most of these colonies and nations, efforts to organize workers or to start unions were met with brutal resistance by company owners. Massive and increasingly violent protests against international trade organizations like the ITO (Interstellar Trade Organization) occurred in Seattle and several other large cities in the late 1990s. These highly publicized demonstrations caused some consumers to finally notice the human cost of their prosperity, but little was done to alleviate the problems and in both third world nations and off-world colonies, tensions began to build and both anti-first world and anti-Earth sentiments began to gain wider support.

The Growth of Microcolonies

Increasingly large numbers of eccentrics, splinter group, and minor political, religious, and ideological factions began digging up their roots and heading into space. Small private colonies began clogging up the LaGrange points of the Earth-Moon system, and larger groups set off to found mini-colonies on newly discovered worlds both within and occasionally beyond the 20 LY radius around Sol, now known as the Oikumene. These colonies were largely not sanctioned by any government. They were private ventures funded by companies or groups of citizens that went without any official

approval or blessing, hoping a fait accompli would justify their risk. Literally scores of such ventures left Earth in the 90s, some to fail, some to hang grimly on, and some to succeed. "Official" colonization by the US, EU, the UN, and many other nations also continued at an ever-increasing rate – between 1990 and 2001, the number of people living in extra-solar colonies almost doubled.

Planet Brokers

Even as early as the late 1980s, adventurous individuals were purchasing military surplus starships and using them to explore beyond the known boundaries of the Oikumene. When the Soviet Union fell and the Russian government sold off much of its fleet of spaceships to raise money, the price of surplus starships plummeted and hundreds purchased them for the express purpose of private exploration. Many dreamed of finding vast deposits of gold, precious stones, or even exotic alien ruins. However, the most successful began searching for previously unknown habitable worlds.

An increasing number of politically and ideologically motivated groups sought to leave the solar system and establish their own colonies on habitable worlds far from interference by either their enemies or any other nation. While the US, the EU, and the PRC all offered a moderate finders fee for anyone who located a new habitable world, explorers could make far more money secretly selling the location to private clients. Explorers who specialized in such clandestine deals became known as planet brokers.

There were many stories of planet brokers who sold the locations of worlds they claimed were safe and habitable, even though they had learned of serious but difficult to notice dangers, like plants that emit large amounts dangerous neurotoxins during one season of the year or annual hatchings of vast, highly aggressive insect swarms. The major space-faring nations widely publicized such incidents in an effort to deter unlicensed colonization. While many prospective colonists understood the dangers of settling on worlds that had only been examined by a handful of people for a few days, the lure of founding a hidden colony far from any outside interference was often too great. Planet brokers could often make tens of thousands of dollars from the sale of the location of a single world. Of course, wise buyers always insisted that the broker take several of their representatives to the planet and allow them to examine it for a few days before making a sale.

Identity Colonies

One of the more common varieties of these micro-colonies became known as "identity colonies". The rapid growth of the internet allowed members of various small interest groups, from gambling addicts to transsexuals and followers of various esoteric religions to get to know one another and begin to organize. Larger and more established groups, ranging from white supremacists to members of various medieval recreation societies used this new tool to help themselves find new members and to spread their messages.

In the mid 1990s, some of these groups embarked on plans to form their own colonies on habitable worlds. Regardless of the group, the initial plan was much the same. The members of the group would each donate a sum of money to a fund to help purchase the land, set up the colony, and buy the needed equipment. Then, every member who could afford to do so would travel there. If possible, the wealthiest members would purchase tickets for the poorer members.

Although the potential for financial abuse was exceptionally high, a few of these colonies were actually established. In 1997, a collective of white supremacists based in the United States and Australia managed to found a small, unlicensed white-only colony around Zeta Tucanae III, a cool dry world 23 light years from Earth. In addition, the largest medieval recreationist group in the US managed to establish a large and carefully licensed colony on New Missouri that largely served as a location for the groups most elaborate mock wars and other gatherings. However, for every colony that was actually established, many more turned out to be nothing more than money-making schemes by skilled con artists. Near the end of 1998, the boom in identity colonies ended when reporters revealed that the plans for one of the larger television-based Christian evangelical churches to create an all-Christian colony were nothing more than a new way for the head of this church to fleece his viewers out of large donations.

Third World Corporate Colonies

As the inhabitants of the First World began to either invest in space or move there, people in the crowded and impoverished nations of the Third World dreamed of making new homes among the stars. However, the history of Third World colonization was far more problematic. Only the wealthy elites had the means to afford to purchase or even book passage on a starship, or to gather the equipment needed to found a new colony, so

many colonies founded from third world nations consisted of private projects started by these elites.

In early 1991, as Apartheid was ending in South Africa, slightly more than a thousand wealthy whites, along with an equal number of their most loyal colored servants and almost 2,000 illiterate and desperately poor black workers boarded an aging starship that the whites had pooled their money to purchase. Heading for Beta Virginis IV, a world 32 light years from Earth whose location they had secretly purchased from a planet broker, this group soon founded the colony of Strijdom (named after one of the founders of Apartheid).

The colony remained both hidden and increasingly oppressive, until 1998, when black rebels stole one of the colony's two starships and returned to Earth. A UN peacekeeping force was dispatched to Strijdom and helped stop what had become an exceptionally bloody race war. The majority of the blacks had risen up and killed almost 700 whites and many of their colored servants. The remaining whites succeeded in fleeing to fortified bunkers and used the military-grade weapons they had carried with them to wipe out almost half of the black and colored population. By the time the UN arrived, almost 60% of all of the colonists had been killed in the fighting. The surviving whites were remanded to South Africa for trial, the colony was renamed Biko, and by early 2001, it was inhabited by the surviving black and colored inhabitants as well as several thousand more South African immigrants.

During the last half of the 1990s, other Third World elites attempted to create similar colonies for purposes ranging from fleeing political turmoil to creating a base from which to prepare for a war against their enemies. Tamil rebels from Sri Lanka established a colony in 1998 and used it as a location for arms shipments and a refuge against attacks by the Sri Lankan government.

In addition to these political and ideological colonies, many residents of the third world dreamed of new lands with rich soil and open land. By the end of 1996 half a dozen transnational corporations, including both DeBiers and Monsanto had purchased locations of especially promising colony worlds from planet brokers and proceeded to discretely hire prospective colonists from among the inhabitants of desperately poor nations like Indonesia, Bangladesh, Ethiopia and Myanmar. These companies hired colonists to build a settlement and then exploit some valuable local natural resource like diamonds, polymer-containing saps, fruits rich in pharmaceutical precursors, and similar commodities.

These settlements were much like the "company towns" of the late 19th century, where the residents were paid for their work in company script, along with promises of land of their own after working for the company for two or more decades. By the late 1990s, word of both the existence of these colonies and the often brutal and inhuman conditions found there began to reach the mass media, but these revelations resulted in nothing except a few highly public protests and some largely ineffectual product boycotts.

The Dot Bomb and the Interstellar Plummet

One of the hallmarks of the last years of the 20th century was unbridled financial optimism at the seemingly limitless opportunities presented by both the internet and interstellar exploration. The result was rampant speculation in both fields, including hundreds of seemingly well-considered plans on how to make large amounts of money using new internet technologies or finding new uses for off-world resources.

Although a few of these plans were wildly successful, most were either hopeful pipedreams or deliberate attempts to con investors out of money and sell the company to eager buyers before anyone realized half of the company's assets had been mortgaged to pay for the other half. Soon, many discovered that no amount of wishful thinking or hard work could allow investors or buyers to make back even a fraction of the money they had already spent. By the end of 2000, newspapers throughout the Oikumene were filled with reports of bankruptcies and worthless companies. Interest in the financial opportunities offered by both the internet and the off-world colonies substantially declined. Then, on September 11, 2001, the fate of the entire Oikumene changed forever.

2001: The 9/11 Impact

The Four Year Retrospective: New Orbital Times, September 11, 2005

Today, the statue of the Rudolph Giuliani was unveiled today in the lobby of the recently completed orbital United Nations headquarters. Although we all heard his last broadcast, let us pause to remember this great man's heroic efforts on that terrible day. Within 15 minutes of the first announcement of the impending impact, Mayor Giuliani used the police and the National Guard to take control of all commercial and

governmental air, space, and rail traffic in New York City and immediately helped all important UN officials get into orbit. Then, in Grand Central Station, LaGuardia airport, and Kennedy air & spaceport and other locations, all commercial vehicles leaving the city were on a first come first serve basis, free of charge to everyone willing to wait in line for their chance at survival. Meanwhile, he interrupted service on all local radio and TV stations and broadcast an appeal for everyone to leave the city immediately and for anyone who owned a contragrav vehicle to help evacuate as many of their less fortunate neighbors as they could instead of taking their possessions.

The fact that mayor immediately authorized the police to used lethal force to keep order and prevent riots is credited with allowing this evacuation to be as peaceful as it was. Although riots destroyed one train and damaged two airships, in the five hours after his evacuation ordered, more than 200,000 people managed to escape New York. Meanwhile both Mayor Giuliani and more than half of the police and firefighters guarding these stations volunteered to stay behind to keep order and allow the last planes, spacecraft, and trains to get away. Mayor Giuliani's last message was broadcast only two minutes before the comet entered the atmosphere. Although he died with his city, his last immortal words were etched forever in the memories of all who heard them, "As long as we do not allow legacy of this great city to be forgotten or the murderers who are about to kill it to escape justice, the spirit of New York City will live on."

On September 11, 2001, at 10:17 AM, a 2.5 km diameter comet destined for Martian terraforming was redirected by terrorists into a collision with the Earth. The first warning that the asteroid was off-course and headed for Earth came slightly less than six hours earlier, and calculations soon indicated that there was no way to stop the asteroid in time and that it would impact within a few dozen miles of New York City. As the political leaders of the United States, the EU, Japan, the PRC, Australia, and the UN evacuated into orbit, word of the coming disaster was announced to the public. While most of the world's inhabitants braced for an impact they could do nothing to avoid, the cities of the East Coast attempted to evacuate. Highways clogged to near immobility within half an hour, dooming everyone on them. However, the many contragrav cars allowed almost a million people to flee the impact.

The comet struck just south of New York City, between Brooklyn and Staten Island. The impact created a crater 38 kilometers in diameter and almost a kilometer deep. The resulting fireball and shockwave spread death and near total destruction in a radius of 450 kilometers, as far north as southern Maine, as far west as the Ohio-Pennsylvania border, and as far south as the Virginia-North Carolina border. Boston, Philadelphia, Baltimore, Pittsburgh, and Washington DC were all completely destroyed and even the furthest away of these cities only had a few hundred survivors who had managed to take shelter deep underground in highly secure structures. The blast from the impact could be heard (and caused the ground to shake slightly) as far away as France and northern Mexico, although the impact itself caused no direct damage at this distance.

Within a few hours after the impact almost two billion people were dead. In addition to the vast fireball that incinerated the area immediately around the impact, the vast seismic shock touched off the Ring of Fire around the Pacific, causing a series of massive tsunamis and devastating earthquakes. Japan, Indonesia, and New Zealand were all largely depopulated by earthquakes and mega-tsunamis as much as half a mile high. These same tsunamis scoured the coasts of China, India, as well as the northern coast of Australia and the west coasts of both North and South America clean of life for as much as 100 km inland. Coastal cities in all of these locations were destroyed and the difficulties of evacuation meant that only a fraction of their population managed to get far enough inland. Similar waves crossed the Atlantic, but by the time they reached Iceland and the coasts of Europe they were significantly reduced in power. These waves did moderate damage to coastal cities and towns. There was severe but controllable flooding in the Netherlands, but most of Europe survived largely unscathed. The impact also set off previously inactive faults - the Aswan Dam in Egypt collapsed and the Nile ran backwards for two days and a massive earthquake in the New Madrid fault in Missouri destroyed St. Louis and changed the course of the Mississippi River.

In addition, the portions of the world untouched by the immediate impact soon realized that they had not been

spared from disaster. The 9/11 impact precipitated a "cometary winter" that greatly reduced sunlight for the next four years, causing plants to die, crops to fail and temperatures across the globe to fall an average of 30 degree Fahrenheit. In addition, the Gulf Stream and the Atlantic Conveyor were completely disrupted, causing local temperatures in the northern portions of the eastern US and Western Europe to fall even further.

The Reaction

The initial reaction throughout the Oikumene was a vast outpouring of support and sympathy for all of the people of Earth, and particularly the people of the United States. Mayor Giuliani's last broadcast was seen or heard by almost everyone in the Oikumene and the destruction of New York City and the entire Eastern Seaboard of the United States became a focus of anger at the attackers and widespread support of the survivors.

On Earth, stunned horror rapidly transformed into rage as the survivors both mourned the dead and began to realize the famines and many other hardships they would soon face. Everyone on the planet demanded that those responsible be found and punished, but the terrorists' identities and location remained illusive. Many initially blamed the isolationists of Refuge, but a complete lack of evidence caused most to admit that they were unlikely to be responsible.

The lack of knowledge about the terrorists caused widespread fear, on both Earth and the colonies, as everyone worried that another attack somewhere might be imminent. However, as the first weeks passed, and no such attack occurred, this fear began to abate in the colonies. However, on Earth, and especially in the devastated United States, this fear transformed into lasting paranoia and eventually xenophobia.

Reprisals

One week after The Impact, the terrorist responsible finally send a message to humanity. Claiming to act for oppressed people throughout the colonies, the terrorists talked of "humbling rich and mighty of the Earth". As soon as the text of the message was released, many listeners took the references in the message to the "divine wrath of Allah" as evidence that the terrorists were Muslim extremists. This revelation touched off a massive wave of anti-Muslim violence in regions that had not been utterly devastated by the impact. Throughout the southern and Midwestern United States, as well as in much of Europe and Russia, Muslims, and occasionally other non-western immigrants were killed by mobs. Although many local governments attempted to stop this violence, in less than a week, more than 100,000 people died in these attacks and anti-Muslim feelings remained strong in most of the west for the next decade.

Within a few days of this broadcast, the officials of the US government, who were now safely ensconced in their orbital emergency command center, decided the attack was the work of radical Muslim terrorists operating from one of the unlicensed third world colonies. Acting upon sketchy intelligence that the small and isolated Iranian colony of Khomeini may have been involved President Bush ordered the Rocket Corps to make concentrated nuclear strike on this nation.

Although almost half of the soldiers of the Rocket Corps took the unprecedented step of declaring themselves unfit for duty when the presidential orders came out, two military starships were sent out with a total payload of six hydrogen bombs. Khomeini was located on a small, dry world almost 29 light years from Earth, whose only official name was Lambda Serpenti III. The attack completely obliterated this colony. The lack of hard evidence that the people of Khomeini were involved in the 9/11 impact shocked many throughout the Oikumene, and the situation became more difficult and complex a week after this attack, when a second message from the terrorists promised further attacks in retribution for the destruction of Khomeini, proving that the terrorists had not been destroyed.

Though the attack on Khomeini caused some of the inhabitants of the various colonies to rethink their sympathy for Earth, this attack was widely praised in both the United States and by many of the other survivors of the 9/11 impact, who were more than happy to have a target for their rage.

As the first few months after the attack passed, paranoia and xenophobia continued to spread among most survivors. In addition to anti-Muslim violence, there were increasing numbers of attacks against people known to have lived or worked outside of the solar system, and occasionally against immigrants from distant nations on Earth. As it became clear that the worst was far from over, the growing climate of fear and desperation caused most inhabitants of Earth to band together with others they felt comfortable and safe around and to see everyone of different faiths, ethnicities, or political beliefs as both potential threats and as competitors for the small amounts of available food.

Although there is little hard evidence and almost everyone prefers to ignore this chapter of Earth's history, some

rescue workers from the colonies estimate that as many as 5-10% of the deaths in 2002 and 2003 attributed to famine were actually murders committed by one ethnic, religious, or ideological group against another. Because it was so hard-hit, such attacks were most common in the United States, but they were regular occurrences in all of the temperate nations and occasional problems in the tropical lands, where the famines and other problems were somewhat less severe.

2002-2005: The Die-Off

Notes From Home, Roosevelt Evening Standard, September 25, 2003 – by Joan McIntyre

I can't really describe conditions back on Earth. I arrived in on June 3rd – flying over the ruins of St. Louis was chilling, but when we arrived at Angel Station, the reality of it all began to sink in. It snowed the day after I arrived, and the temperature at noon was 29. The sky was the worst, a cloudless summer day was no brighter than the worst thunderstorm I'd ever seen, and noon on a cloudy day was like twilight.

The people were more desperate than anyone I'd ever seen before, not a one wasn't hungry, painfully skinny, and cold. I came back because my sister is ill, but I urge any of you who can to sign up for one of the relief missions, they need us like and even the least help can save lives.

Although the northern hemisphere harvests were all in, and the first world had food stores that would last throughout the first half of 2002, after then food began to run out. In the Third World, food reserves were far less and none of the First World nations had anything to spare. Food rationing and anti-hoarding laws were instituted almost immediately and by the middle of the spring of 2002 the first famines had begun. In addition, researchers in the surviving universities and laboratories immediately began work on methods of producing lab-made food by cloning meat and plant cells and creating artificial nutrients using complex chemistry. When the sun returned in late 2005, and some degree of normal agriculture again became possible, the world's population had been reduced from 6.1 billion to 2.1 billion. The following is a brief description of conditions in various nations.

Europe

Europe had been almost completely spared from the immediate devastation caused by the 9/11 impact. With the exception of moderate tidal waves, and minor tremors, at the end of September 11, 2001, the EU was intact and the only damages and deaths came from panic.

However, predictions indicated that there would be no appreciable summer in for at least the next three or four years. To make matters worse, no food imports could be expected from any other nation, because they were all facing similar conditions. During this time, famine came to Europe and most of the population of Northern Europe starved.

Climactic predictions soon indicated that agriculture would be almost impossible north of the 40th parallel (or south of 40 southern latitude) except in regions where warm tropical seas like the Mediterranean moderated temperatures. Even here, land north of the 45th parallel would remain too cold and dark for any agriculture that did not use artificial heat and light. In Europe, the only nations that would be able to grow any food would be Spain, Portugal, Italy, Greece, Bulgaria, Serbia, Albania, Croatia, and Southern France. Regions north of the 5oth parallel would experience snowfalls and frequent subzero temperatures year round.

Policy makers throughout the EU attempted to determine how many people the warmer southern nations could support and then began the grim task of selecting the survivors. Lotteries were held in every European city and county north of the 50th parallel for moving families there into the warmer southern lands. Those who remained behind were given free access to all local food stores and were promised free access to any surplus food shipments, not that anyone expected any such shipments to occur.

Those lucky enough to win the right to move south knew that many of the friends and neighbors they were leaving behind would not survive. National militaries and local police attempted to keep order during and after this migration. Also, the inhabitants of the northern European nations tried various tactics to attempt to grow what food they could, including indoor gardens using grow lamps and public works projects to construct huge greenhouses where sunlamps and low-power heaters would augment the meager sunlight. Their one advantage was that the European portion of the SPS network provided sufficient power for these desperate measures. Nevertheless, by the Fall of 2002, famine was widespread. Although more than half of the population

of southern Europe survived the famine years of 2002-2005 - 120 out of 200 million, almost two thirds of the population remaining in northern Europe died of starvation or diseases brought on by malnutrition during this time - 315 out of 475 million.

Asia

Much of coastal Asia was devastated by mega-tsunamis and the various nations located on the Ring of Fire were largely destroyed by earthquakes and volcanoes. A third of India's population - 365 million - and a quarter of China's population - 330 million - died shortly after the impact, but northern India and the inland portions of China were largely untouched by the catastrophe and the survivors rapidly expanded back into the portions of their nations destroyed by the impact. However, in both of these nations, the famines caused by the "cometary winter" caused a massive loss of life.

With brutal efficiency, the government of the PRC ordered the majority of the urban populace the leave the cities and attempt farm even the most marginal lands, while keeping sufficient numbers of people in the cities to keep their basic technical infrastructure intact. Knowing they could not feed everyone, government officials transported almost half of the nation's population into the more remote and marginal lands of western China and ordered them to farm for the subsistence, knowing that they were condemning these people to death. All of China's prisoners and dissidents were sent to farm the most marginal lands. Although there were food riots and other violence, China survived with its infrastructure largely intact, although 380 million of the population that survived the impact died of hunger.

The abject poverty found among one third of India's inhabitants and the nation's overpopulation made conditions even worse there. Almost half of India's surviving population - 330 million - died during the famines brought on by the "cometary winter". However, both nations generally managed to maintain social order and were able to begin rebuilding as soon as the worst of the famines were over.

The United States and Canada

The coastal portions of the United States had been largely swept clean of life by the impact, the earthquakes, and the mega-tsunamis. Then, a few months later, the northern-most portions of the United States and all of Canada were rendered completely useless for agriculture by year-round freezing temperatures. However, the southern portions of the inland states were largely safe from both the impact and the worst of the famines. Food was scarce and starvation common, but the large amounts of high quality arable land combined with the relatively low population allowed more than 70% of the residents of these states to survive until the end of the long "cometary winter". Although there was a massive influx of refugees from northern states, most were allowed in because population densities were sufficiently low that most could be put to work growing food. Other refugees were able to repopulate much of the coastal regions of Southern California, Texas, and Louisiana that were devastated by the impact. By the summer of 2002, the last of the severe aftershocks were over and these refugees set to work attempting to farmland that remained moderately fertile even in the face of greatly diminished sunlight. As a result, more than a third of the population - 120 million - survived.

Little of Canada was damaged by the 9/11 impact, but the cold and dark of the cometary winter forced the residents to adopt measures similar to those used in northern Europe, as well as the defacto annexation of huge tracts of land in the northern United States that had been abandoned by people who sought refuge in the south. More than half of all Canadians starved to death, but the remaining 15 million found ways to survive.

Central and South America

Although most of Central America had been swept clean of all life by earthquakes and tsunamis, the Andes mountain range protects the vast majority of South America from tidal waves and allowed this entire continent to escape almost unscathed. Both the lowlands of Peru and Chile were severely damaged by the tsunamis and the southern half of Argentina rapidly became too cold for agriculture, but the remainder of South America came through the years following the impact shockingly well. However, this region is still dealing with the long-term environmental impact of the rapid rainforest clearing, large-scale hunting, and similar measures used to extract every possible bit of food from their sun-starved land. These heroic measures allowed more than 220 million of the 300 million survivors of the initial impact to live through the cometary winter. Their large petroleum reserves, supplemented by drawing on the SPS grid also allowed the regions infrastructure to remain largely intact. To help facilitate this region's survival, Venezuelan President Hugo Chavez proposed the formation of a mutual aid collective modeled after the EU. This SAU (South American Union) was forged in the adversity of the years of the long winter, and when it was over, this nation had lost almost a third of its population but was

also more unified than ever before.

Africa

While none of Africa was rendered uninhabitable by falling temperatures, the lack of stable governments and durable infrastructures meant that the combination of significantly reduced agricultural production and a total cut off of all First World imports caused widespread famine and social disruption. Hunger increased political tensions and from 2001-2005, Africa was home to more than half a dozen regional genocides as well as widespread warfare. The already inadequate infrastructures of even the most developed African nations largely collapsed. By 2005, Africa began to rebuild, and some semblance of order had been restored to most nations. However, almost two thirds of the population of sub-Saharan Africa - 420 million - was dead when the skies finally cleared near the end of 2005.

Australia

Although massive tidal waves had struck the sparsely inhabited northern coast of this island, the remainder of the island was little affected by the initial impact. Also, while temperatures fell, the increased rainfall during the years of the cometary winter helped alleviate the loss of agricultural productivity caused by the cold and the lack of sunlight. Because it was relatively sparsely populated, an immediate program of mandatory farming allowed two thirds of the population of this nation - 13.4 million - to survive the four-year long winter.

The Long-Term Political Response

A few days after the bombing of Khomeini, the orbital cabinet of the United States, along with the surviving members of the Congress authorized both a massive program to hunt down the interstellar terrorists who are responsible for 9/11, and a comprehensive national security bill, known as The Patriot Act. This new law greatly expanded the federal law enforcement's authority to order surveillance and largely removed the needs for search warrants for anything except actual physical searches of private dwellings – electronic surveillance and searches of both business and vehicles were now largely done at the discretion of the government, with no need for judicial approval. When presented with a bill that would have previously horrified any supporter of civil liberties or constitutional rights, the shock and horror of 9/11 caused Congress to immediately authorize this bill. On Earth, the impact of the Patriot Act was naturally moderated by the fact that most of the United States was far too busy attempting to survive the next few years of famine to wary about civil rights, and surveillance of most of the population was now impossible.

However, in orbit, and on the US controlled portions of Luna, the situation was far different. By 2001, nearly two million US citizens lived or worked in orbital stations or on the US portions of Luna. Because the attack was clearly the work of terrorists located off of the Earth, surveillance here became especially intensive. Before the end of 2002, the government had detained almost 4,000 Lunar residents for questioning. Slightly more than half were questioned extensively for several months and then released, but almost 1,800 were held for several years, and a few died under mysterious circumstances while in detention.

Most other nations soon instituted similar policies. Australia modeled its slightly less extensive and draconian national security laws on those enacted in the US, the PRC simply became stricter in its enforcement of its existing laws, and largely replaced its large prison system with a mixture of summary executions and work farms on exceedingly marginal land. While both the EU and the newly formed South American Union both avoided instituting the same level of authoritarianism, they rapidly instituted universal surveillance of all public spaces and tolerance for foreigners, especially people from outside the solar system was no higher than in the rest of Earth.

Because it had sustained no damage, Earth's large orbital settlements became the most vital and growing portion of this world's economy and thus were at the forefront of this push towards security. In some cases, physical connections between orbital settlements by different nationalities were severed and replaced by carefully monitored contragrav shuttle services. Despite the growing climate of distrust, the various nations of Earth feared the stars considerably more than each other. As a result, the nations of Earth, or more accurately, their various orbital stations and Lunar settlements, worked together to establish an integrated long-range observation network that could instantly detect the approach of any similar attack. In addition, all of the nuclear powers donated the majority of their arsenals to a specially designed defensive network of missile fitted with powerful nuclear rockets capable of taking them to anywhere in the solar system within a few hours.

Completed in 2004, the people of Earth unanimously supported this network, popularly known as SkyWatch. However, by 2005, political cartoons and editorials in newspapers throughout the rest of the Oikumene began

to depict Earth as a desperate and paranoid armed camp bristling with weapons. Rumors began to circulate among the colonies that these missiles were fitted with FTL 2 drives, which would allow them to be used to make swift and unstoppable attacks on any of the colonies. The joint US-UN department in charge of Sky-Watch neither confirmed nor denied these allegations, defending their silence as a matter of planetary security.

Space in the Post 9/11 Era

In an instant, the settlements throughout the solar system and beyond were cut off from all hope of resupply by the factories of Earth. Those who lived off Earth watched in horror as almost a third of their homeworld's population died in a few hours and another third slowly starved or died in famine-driven wars. By 2001, many of the established extra-solar colonies were self-sufficient and those that were not were able to trade with other colonies for necessities. However, the large settlements within the solar system were far more dependent upon and connected to Earth.

Refugees

In the few hours before the impact, and to a lesser degree, in the few days immediately after the impact, more than four million people left the Earth. More than two thirds arrived in orbital cars they owned or had borrowed or stolen. These vehicles had limited range and air supplies and were forced to land on Luna or dock with one of the orbital stations within a few hours of take-off. The remainder arrived on a variety of vehicles including Greyhound lunar shuttles, deluxe star-liners, and military transport rockets. Many others were packed into the holds of cargo ships destined for Luna, Mars, or one of the colonies. Stories of people stealing orbital cars or murdering their drivers, paying strangers to fit their children on board, or giving briefcases full of cash or jewelry to freighter drivers were reported around inhabited space, as were tales of travelers who threw out their luggage and valuables to make room for strangers who asked for transport off Earth and of a few brave individuals who simply gave up their vehicles or their seats to desperate families.

Almost one million of these four million refugees ended up on the orbital stations and another two and a half million were on Luna. The remaining 700,000 refugees were on board rockets heading for Mars, Jupiter, and the various interstellar colonies. While both the orbital stations and Luna had been designed to accommodate large number of tourists, the air and water recyclers orbital stations could simply not handle more than an additional 300,000 people for more than a week. Although Luna could supply its refugees with air and water, it lacked both adequate living space and food for these people and building new farms and habitations required carving tunnels through hard Lunar rock.

The UN-in-orbit called an emergency session. Everyone recognized that the colonies could simply not accommodate a continuing tide of refugees so all mass evacuation efforts were cancelled. However, no one was willing to send any of these refugees back to Earth, so accommodations for them were made. 200,000 refugees were allowed to remain on the orbital stations, while the remainder were shipped to Luna where the various Lunar governments were promised that they would remain for no longer than three months. Food shipments from Mars and from the nearer colonies helped tide the refugees over while they were on Luna.

As word of the 9/11 impact and the refugee problem went out to the various colonies, almost all allowed a limited number of refugees to immigrate, giving preference to any who had family or close friends on the colony. Within the year, the total population of the extra-solar colonies rose from 8.6 million to 10.2 million. Although conditions for these refugees were hard, most of these colonies had plenty of land for people willing to work it

The remaining three million refugees remained in the solar system. 200,000 settled in Earth orbit, almost one million remained on Luna, half a million settled on the Jupiter colonies or the asteroid belt, and slightly over a million refugees settled on Mars. Because Mars was the largest off-Earth supplier of food in the Solar System, there was always room for more people to work the Martian farms, especially since new Martian farms and habitats were far cheaper and faster to construct than those on the Moon or any of the other in-system settlements.

The development of genetically engineered crops and trees that could tolerate the metal-salt-infused Martian soil and the increasingly inexpensive local manufacture of the Martian dome habitats allowed the Martians to create habitat and farming domes for the refugees in less than six months. By the middle of 2002, the population of Mars had risen from 2.2 million to 3.3 million, and Mars became the breadbasket of the Solar System. By 2003, Mars supplied all of the additional food required by the Lunar, Jupiter, and asteroid belt settlements, making up for the food no longer available from Earth and removing the need for further food imports from the extra-solar colonies.

All of the refugees working on these Martian farms were promised that any food produced above that needed to supply the needs of the other in-system colonies would be shipped to Earth to help alleviate the famines. Most farming domes worked by these refugees held contests to see which groups could grow the most surplus food that could be shipped to Earth. These efforts helped boost morale among the refugees during the worst parts of the famine. Although most of the food shipped to Earth came from the agriculturally rich worlds like Roosevelt and Novya Minsk, Mars-grown food saved many lives, as well as giving grief-torn refugees on Mars some way to help the people of Earth.

Earth Orbit

The SPS grid habitats and the many other orbital stations remained as firmly tied to Earth as they had before the 9/11 impact. The SPS grid provided the vast majority of the power used by the survivors and enabled temperate settlements that would otherwise had lacked the power for heat and grow lamps to better survive the cometary winter. The personnel in charge of the various SPS satellites literally held the power of life and death and through four long years, these crews did their best to make certain that everyone in the regions served by their satellite got all the power they needed to survive. With the world population drastically reduced and the most hard-hit areas in no shape to construct power-receiving rectennas, the mostly completed power grid had more than sufficient power for all who could use it. However, there were unfortunate incidents, like the middle of the winter of 2003, when a temporary breakdown in one of the Japanese satellites took it off-line for six days. The Japanese government asked the leaders of the PRC, who had the only other satellite in range, for a small amount of power to prevent the survivors in the ruins of Kyoto from going without heat and light. Still resentful of Japanese excesses during WWII, the PRC refused and almost 1,500 people froze to death before the Japanese satellite was repaired.

The governments of many nations had removed themselves to orbit. The leadership of the Brazil, Venezuela, Australia, and the EU all returned to Earth in early 2006, but conditions in Japan, the United States, India, and the PRC were sufficiently marginal that they and the leaders of several other nations remained in orbit. With the destruction of the UN Building, the United Nations remained in orbit. For 2001-2003, the UN met in a small orbital habitat that it had requisitioned for this purpose, but by late 2003, orbital and Lunar construction crews completed a small, comfortable, and well-defended orbital headquarters. Designed to be expandable, this station was place in geosynchronous orbit at the same longitude as the ruins of New York City. This New United Nations, popularly known as the "High UN" was the first earth-related engineering feat completed in the post-9/11 era. As both international tensions and tensions between Earth and the rest of the Oikumene increased, the High UN served as both a beacon of hope and a sad reminder of an era of international and interstellar cooperation that was now over.

In addition to the SPS network and the governments of most large nations, Earth orbit also contained more than 700,000 people, including more than 200,000 refugees. The vast majority of these people remained staunchly loyal to Earth. However, because few of these orbital stations were self-sufficient, they remained dependent upon Luna and to a lesser extent Mars for food and raw materials. As a result, their ability to help their fellows back on Earth was limited.

The Solar System

Luna, Mars, the asteroid belt, and the other inhabited portions of the Solar System were no more than a day or two from Earth. Although many of these settlements had established some degree of independence before 2001, they also retained close ties to Earth, and all depended upon Earth for at least a few essential supplies. Even discounting the millions of refugees, more than 12% of Lunar inhabitants worked or lived on Earth and almost 6% of the inhabitants of Mars and the other settlements in the solar system were inhabitants of Earth who had been temporarily assigned to work in these settlements by their employers.

However, as most of the nations of Earth became increasingly paranoid and isolationist, these ties began to weaken, especially for colonies outside of Earth's orbit. Mars remained committed to providing food for Earth, and its one million+ refugees continued to grow food for the starving masses of Earth. However, contact with Earth was limited and planet's growing xenophobia worried many inhabitants of the rest of the Solar System. As a result, the Martian, Jovian moon, and Belt settlements began to increasingly see Earth as a world that was no longer their home and where they would no longer be welcome.

The inhabitants of these worlds rarely landed on Earth for any purpose other than relief work, but many visited the orbital settlements around Earth, which increasingly became the interface between Earth and the rest of human-inhabited space. Since the attitudes of the inhabitants on the surface were soon reflected in Earth's

orbital settlements, visits to these stations by visitors from Mars, the Belt, and the other settlements in the Solar System began to be slightly strained and visitors from these settlements were subjected to increasingly strict security measures.

The position of Luna was considerably more complex. Unlike the rest of the solar system, travel between Earth and Luna could be made solely with contragravity and required less than two hours. As a result, ties remained close, especially since the orbital settlements were largely dependent upon both raw materials and finished goods produced on Luna. Nevertheless, Luna was a large and populous world, and most of lunar residents had lived off Earth for several decades. As the people of Earth began to increasingly distrust visitors from the stars, Lunar independence movements continued to grow in both numbers and influence. Many of the nations on Earth began to worry at the increasing power of the Luna Free State, which had been gradually expanding both its influence and its size, as disaffected Lunar residents increasingly chose to move there.

The Colonies of the Oikumene

Before the 9/11 impact, slightly more than 8 million people had left the Solar System behind and made new lives for themselves around other suns. The closest of these colonies was sufficiently far that ships from Earth took almost a week to reach them. Therefore, news of The Impact traveled slowly – while the colonies were horrified by the events of 9/11, many also felt somewhat removed because of the time delays involved. Recent immigrants and those with friends or families back on Earth often waited at spaceports for news from ships arriving from the Solar System. However, many second-generation colonists listened to or read about news about The Impact in the same way that residents of First World nations back on Earth had previously listened to news of famines or natural disasters in distant third world nations - with a mixture of shock, compassion, and relief that they were isolated from the horrors involved.

Within two weeks of 9/11, all of the colonies knew that they were on their own in a way that had never been true before. After the initial wave of refugees, contact with Earth was largely limited to recorded news broadcasts and returning aid workers. By the end of 2002, a complex trade network had evolved that allowed colonies that were not yet fully self-sufficient to trade with other worlds for necessary supplies. During 2002, many colonists grew emotionally numb listening to unending reports of the latest death tolls from Earth and became increasingly disturbed by the world's anti-interstellar rhetoric. Although trade with Luna, Mars, and the rest the Solar System continued, many colonies began to make certain that they could supply all of their necessities from sources outside the Solar System.

By the end of 2004, many colonies had begun to separate themselves from Earth and the Solar System, both politically and economically. Although trade with the Solar System did not decline, it remained relatively stable as trade between extra-solar colonies continued to grow and new colonies were set up without regard to UN decrees.

The Angel Missions

Many colonists increasingly viewed the Solar System as a distant place that was no longer their home, during the long years of the "cometary winter". However, colonists who had listened helplessly to the news that more than 1/3 of the Earth's population was dead a week before the news reached them, vowed to do what they could to help reduce the deaths from the famines. By the Spring of 2002, almost all of the well-established colonies had organized relief efforts. Some ships brought supplies to the struggling tropical nations, but most sent relief to the hardest hit peoples living in the now icy temperate zones. The majority of these relief missions brought concentrated food and medical supplies to the American Midwest, Northern Europe, Russia, and the most desperate portions of India and Africa. A few attempts were made to send food to the peoples starving in Northern China, but the Chinese government maintained sufficient aerial might to capture most of these vessels and confiscate their cargoes of food. After the second such seizure, colonies ceased sending any relief missions to China.

Both the American Midwest and Russia had great sentimental value to the many colonists who were born there or whose parents were born there. Also, these regions had both suffered an almost complete collapse of their infrastructure. Their inhabitants had been reduced to little more than bands of survivors defending themselves against bandits and futilely attempting to grow food to supplement the meager supplies they could scrounge from the ruins of damaged or abandoned cities.

Colonial relief efforts attempted to fill this power vacuum. In the heart of Milwaukee, and on the outskirts of Kiev, colonists from several worlds set up permanent relief stations. The initial US relief station was started by the residents of Roosevelt, and the Kiev relief station was founded by people from Novya Minsk, but soon

both worlds were assisting each other and by the end of 2002, almost a dozen other colonies were assisting with both efforts.

In addition to providing food and medical supplies, relief workers used their rockets to patrol the surrounding region and either hunt down or attempt to pacify the bandits and local warlords. Although initial plans of restoring order and government to the surrounding areas proved to be overly optimistic, these two stations grew into moderately large settlements, known popularly as Angel Station (on lake Michigan) and Red Angel (near Kiev). Both became shining beacons of hope in otherwise desolate regions. The success of these two relief stations encouraged smaller relief stations to be set up in Portland Oregon, Omaha Nebraska, Paris, and London. Although none of these later stations succeeded in becoming anything more than places for survivors to come and obtain supplies, they all quickly became neutral territory for the various bandit gangs and nomadic bands that lived nearby.

Comet - anonymous ballad

I ride my comet through the night
and kiss the fields with deadly blight
and in the bleeding light I see
the cut-glass fragments of entropy
showering over me

With death's sweet taste upon his lips
my comet smiles as he rips
his wicked smile lights every mile
mile upon mile upon mile
mile upon mile upon mile

The moon stands, she's a painted fool
and wolves tread on her silver rule
washed with incandescent rain
which mutes the keening cries of pain
she looks then turns her back again

No comets tumble where I go
where fields lie glazed with silent snow
where spite has won the final race
and stopped the burning ships of space
and we see ourselves face to face

Optional Future History: 2006-2060.

The following is one possible future history of this setting. GMs are free to use or ignore this information as they see fit.

2006-2020: The Recovery

The Truth Will Out: New Orbital Times, Oct., 17, 2020

After refusing retrovirus treatment for terminal lung cancer, Philip Martinez, made a shocking and terrible deathbed confession. Martins served in the CIA from 1971 to 2002 and admitted yesterday that he was involved with the terrorists responsible for the 9/11 Impact. He claimed that in December of 2000, he discovered a small group of colonial separatists who had a plan to cause The Impact, but who lacked both the funds and the technical means to make this attack possible. After consulting with his superiors, it was agreed that he would continue to work inside this terrorist organization, both to keep track of their activities and to funnel money to them to allow them to turn their plan into reality.

Mr. Martinez said that the impact was not supposed to occur until December of 2001, and that his superiors planned to announce this plot and arrest everyone involved in late September. As a result, the agency would gain great prestige. They also hoped that the media reaction to the discovery of such a horrific plot would help push through anti-terrorism legislation proposed by the Bush administration. Unfortunately, the terrorists must have discovered Mr. Martinez' identity, because they moved the date of the impact up by more than two months and neglected to tell him. Needless to say, we all know what happened next. Mr. Martinez then named other government officials who had known of his work – these names cannot now be revealed because of the ongoing nature of this investigation. However, this newspaper hopes that everyone involved who is still alive will soon be apprehended and tried for crimes against all humanity.

By 2006, the worst was over and Earth was beginning to long process of recovery. By 2006, 65% of the Earth's population was dead and the Earth had been divided into two distinct regions. There were civilized areas, like most of South America, Australia, and the American South, where governments maintained order, people had access to at least minimal rations of food and medical care, and the inhabitants were busy burying their dead, rebuilding their cities, and attempting to regain their lost prosperity. However, there were also the "wild zones", where desperate people still scrounged for food and the only law was survival of the fittest, or at least the most heavily armed.

At the beginning of the recovery, most people living in one of the civilized zones had sufficient access to all of the basic necessities of modern life, including food, clean water, acceptable housing, electricity, and a first world level of health care. In addition, one of the defining characteristics of the civilized zones was the presence of the accepted rule of law. Violent or anti-social behavior was punished by arrest, trial, and judicial punishment. Even individuals who owned weapons almost never needed to use them to defend themselves and most of the populace did not own firearms of any sort.

The "wild zones, which included the much of the world's temperate zones were vast wastelands filled with corpses, petty warlords, bandits, and people reduced to pre-industrial forms of subsistence. Here, many lived as nomadic scavengers, while others attempted to farm the marginal land using scavenged tools.

Meanwhile, bandits roamed the countryside taking what they could from anyone who was not able to fight them off. The few governments that existed here were either local ad-hoc affairs that were largely consensus-based, or brutal armed gangs of bandits or warlords. In the "wild zones" everyone who could acquire them possessed large amounts of weapons and ammunition and residents were regularly forced to defend their property and their lives with lethal force.

By 2006, the boundaries between the civilized and the "wild" areas had largely become stable. Although more than a third of the habitable land was now part of one of the "wild zones", by 2006, more than three quarters of the survivors lived in the civilized areas. Nevertheless, almost 600 million people live in conditions not previously seen on Earth since the 19th century.

Conflict between civilized and wild zones was inevitable, but was also largely one-sided – even while portions of their populace were starving, the civilized areas managed to keep at least some of their airships and weapons in working order. From 2005-2007, bandit gangs living in the wild zones attacked some of the newly secured civilized zones, who were forced to deploy attack airships and other military-grade weapons to disperse them. Many of the civilized zones then sent retaliatory raids against the bandit settlements. In the United State, the worst of these retaliatory incidents occurred in 2006, when Omaha Nebraska, now under joint US-Canadian control, was attacked by an organized group of bandit gangs based in the largely abandoned ruins of Sioux Falls South Dakota. A pair of armed airships from the local SAC base flew over hundred miles northwest, and cluster-bombed half a dozen bandit settlements. Later estimates place the death toll from this attack at more than 3,000.

By 2007, the era of large-scale raids on the civilized areas were over. In addition to food was becoming more abundant, the surviving warlords and bandit gangs realized that they were unable to effectively attack any of the safe areas. Minor raids continued, but as global communication between civilized areas increased, news of the various retaliatory raids spread and public opinion began to demand less extensive retaliation attacks.

The World Order

Shortly after the middle of 2005, almost four years after the attack, the long "cometary winter" ended. By July, the sun shone as bright as it had before the devastating impact. However, global weather patterns had also suffered long-term effects. Scientists said the new climate was exceedingly similar to conditions during the Little Ice Age that lasted from the 13th to early 19th centuries.

Conditions across the globe were changed – in addition to winters being colder and spring and summers being wetter throughout the temperate zone, both flooding and storms, especially winter storms, became considerably worse. Weather became more erratic and violent, and the level of glaciers remained 150 meters lower than they were in the late 20th century. Because the disruption of the Atlantic Conveyor current continued, conditions on the east coast of the Americas and the west coast of Europe became especially cold. In Britain, the Thames once again froze several feet thick in the winter, something that had not since the late 18th century, and farming in much of Canada, the upper Midwestern United States and Northern Europe became difficult or impossible.

Experts expect these conditions to remain constant for several centuries. However, they hope that a combination of beaming microwaves from the SPS network onto glaciers to cause them to melt, and the massive aerial spraying of powdered carbon onto glaciers and pack ice that has been going on since early 2003 will significantly reduce the length of this cold period. By the end of 2006, Earth's nations had remade their previous alliances and reinforced their borders. The major nations were now:

North America: With the utter destruction of both the Eastern Seaboard and Hawaii, the fact that Alaska remained completely uninhabitable, and the large wild zones in the upper mid west and much of the west coast, the US half its previous size. The vast majority of Canada was now too cold for agriculture and beset by dangerously erratic weather. Most of it was given back to the native peoples, while many Canadians fled into the portions of the US midwest that were not wild zones. Most settled in Iowa, Illinois, and Nebraska.

The portions of the US north of the 45 parallel, the entirety of the states of Montana, the Dakotas, Minnesota, Wyoming, Washington as well as northern half of Idaho, Wisconsin California were now wild zones inhabited only by bandits and nomads. In addition, the entire eastern seaboard, from Maine to South Carolina, and as far west as Cleveland Ohio lay in utter ruin. The area within approximately 450 km of the impact site, including all cities between Washington DC and Boston, were burned rubble that was almost impossible to re-inhabit. However, the area beyond this, but within 650 km of the impact site remained a wild zone filled with desperate people struggling to find food and useful objects amidst the ruins.

Although there were efforts to expand the rule of law back into the portions of the eastern US south of the New York crater, progress was slow and resources remained too strained to accomplish this quickly or easily. Except for the Angel Missions, the upper Midwest was largely left as a wild zone because the land there was too cold for use in agriculture.

However, while the US lost much land, it was also in the process of gaining more. The shifting rainfall patterns that dried up much of the upper Midwest proved to be a boom for Mexico, which now had some of the most productive land in North America. Several million US refugees fled to Mexico during the long "cometary winter", and ties with Mexico continued to become closer. By 2009, the US and Mexico were in the process of becoming one nation.

This new United States was characterized by isolationism, a general distrust of foreign ideas, a self-sufficient libertarianism that was tempered by a general concern for the welfare of all citizens, and a heightened religiosity, focused on conservative Christianity.

The South American Union: Peru, Chile, and the southern half of Argentina remained wild zones, but the other nations of South America had joined together under the leadership of Venezuelan president Hugo Chavez. Modeled on the EU Chavez' policies were a mixture of leftist populism and a distrust of the United States, which he blamed for inciting the 9/11 attack. The SAU was the largest and most prosperous state on Earth and contained an abundance of natural resources. At the same time that religion became more important in the US, in both the SAU and its ally the EU, a general distrust and disinterest in religion was fueled by a widespread belief that religious fanatics were responsible for the 9/11 impact.

The EU: With all of Norway, Sweden, and Finland now frigid wild zones and almost all of the population clustered below the 55th parallel, Europe was both smaller and less populous. However, during the long "cometary winter", it had developed close ties with the nations of Turkey, Morocco, Algeria, and Tunisia, which were now part of the EU. This new EU was religiously tolerant within its borders, but fearful of the fundamentalist but desperately poor Arab Alliance, and distrustful of the US. Its closest ally and major trading partner was the resource-rich SAU.

The PRC: China lost two thirds of its population and almost half its land area. Most of China north of the 45 parallel and west of Szechwan was now part of a vast wild zone that also included Pakistan, Afghanistan, Tibet, as well as all of Russia north of the 60th parallel and those Russian lands that were both north of the 50th parallel and east of the Aral sea. This vast Eurasian wild zone, known popularly as the Jumble was inhabited solely by bandits and nomads and no nation possessed either the resources or the interest to attempt to retake it.

In remaining portions of the PRC, the government kept order by abandoning many of the reforms that it had begin to institute in the late 1990s and becoming a repressive, paternalistic totalitarian state that enforced its wishes with brutal discipline. However, it was also a state that guaranteed adequate food, health care, education, and housing to all law-abiding citizens and so enjoyed widespread support among the populace. As the long emergency ended in 2006, the PRC government had its large orbital factories produce vast quantities of highly automated surveillance equipment - the PRC became the first state with universal outdoor surveillance in all cities and towns. The PRC also became even more isolationist and xenophobic than other nations. Large-scale trade and tourism could only occur at the PRC Lunar colony and in the newly rebuilt city of Hong Kong. Any vessel that flew over the PRC at an altitude lower than 100 km was either forced to land or shot down and attempts by Chinese citizens to flee the PRC resulted in imprisonment or execution.

Australia: Australia weathered the long cometary winter better than any other nation, in large part because of its low population density and the fact that the shifting climate actually increased rainfall over much of its arid interior. Even after the return of more normal weather, it much of it remained rich agricultural land. By mid 2005 Australia was actively engaged in recolonizing Indonesia and New Zealand, which had both been largely depopulated by the earthquakes and tsunamis of 9/11. As one of the least isolationist nations remaining on Earth, it traded with all nations of Earth and had the most open trade and visiting policies with the various extra-solar colonies of the Oikumene. By 2019, the newly expanded Sydney spaceport became the largest port for starships visiting Earth. Australia was the only nation that still retained anything like the spirit of hope and expansionism that had marked the last quarter of the 20th century.

The Rest of the World: Most of Africa and the majority of the Middle East remained in turmoil and lacked any significant international or interstellar aid to help them. By 2015, South Africa had become the primary economic power of sub-Saharan Africa. Meanwhile, India, Japan and Southeast Asia all continued to rebuild. By 2018, all had rebuilt much of their infrastructure damaged by the earthquakes and tsunamis spawned by the initial impact, but their political and economic impact on the rest of the world remained very limited.

2021-2040: The New Earth

Some Notes From Paranoiavilla – Blog post by Joan McIntyre, January 17, 2029.

While the good old US of A looks a whole lot better now than it did 26 years ago, it has become a very creepy place. While many of us who live in the colonies own rigs, they're a way of life here. Not only are you a freak if you don't have one and keep it on at all times, you're also breaking the law. You can turn off the phone, but local models don't allow you to turn off the GPS and ID chips, and if you get caught doing so, you pay a hefty fine. I was born in Chicago and don't have much problem visiting, but anyone not born here or who isn't from a former US colony gets a GPS and ID chip bracelet locked on their wrist before they land. Taking it off is supposed to sound alarms and earn you a couple of months in prison.

The feds aren't the only one watching you - there are entire websites devoted to keeping track of off-world visitors, even US-born ones like me. Lots of the people here are also watching each other, which makes you wonder when any of them have a chance to do any honest work. Coming back to the US after leaving for Roosevelt in 1995 has been very odd. When I came back for the millennium, everyone asked me what it was like in the colonies. When I came back to help out with relief efforts in 2003, everyone looked at me with sad tired eyes and thanked me for helping, but behind all the exhaustion and the gratitude was a mixture of distrust and envy that I had a nice home to go back to. I haven't been back here since, and now most people simply don't trust visitors. No one asked me what it was like back here on Roosevelt, they didn't care. The people I used to know mostly talk about the VR-vids they are playing, or living in, or whatever you do with those things. When I ask them about life here outside of their vids, they mostly talked about safety, and the ones who aren't living in arcologies were hoping to move into one soon. Earth looks more like an ant-farm than a place I consider home, and I doubt I'll be coming back.

Although the search for the terrorists responsible for the 9/11 impact continued. However, after the highly public trails of the surviving people known to be involved, Earth largely declared the incident and its aftermath to finally be over. As the safe zones again became prosperous, they also became increasingly insular. A mixture of automated defense systems, advanced surveillance, and xenophobia ended the open borders of the late 20th century. In addition to fortifying themselves against the inhabitants of the "wild zones", the various nations of the world also made certain that intruders from space or simply other nations could not freely cross their borders. All vehicles coming within 200 km of most national borders were carefully tracked and ordered to land only at specially designated ports. Failure to obey these regulations resulted in the capture or destruction of the vehicle. All of the advanced nations of Earth had similar systems in place by 2031, and they continued to fortify and upgrade them over the next decade. Even Australia, the most open and least xenophobic of the developed nations had an automated defense barrier. However, unlike the defense systems in place around the US, the PRC, SAU, and the EU, this system was specifically designed so that human input was necessary before it could use lethal force against any vehicle.

These automated defense grids was part of a larger trend of embracing robotics. Between 2006 and 2040, computer technologies advanced to the point that computers could understand and respond to any simple verbal command and robots had the complexity necessary to easily navigate houses, offices, and factories. Because of the continuing labor shortages caused by the 9/11 impact, the developed world increasingly turned to robots for work and even for companionship.

In the last days of the food-shortages, life-like robotic pets were seen by many as more acceptable than living animals that required food that could instead go to hungry people. Meanwhile robots also began to proliferate in homes, factories, and offices. Although humanoid robots remained exotic novelties with little practical use, automated stoves, house cleaners, and complex assembly robots that could make devices with little human supervision all became more common. Meanwhile, advanced 3-D printers allowed most personal electronics, shoes, clothing, and other small products to be made in a small box in the user's home.

One of the consequences of the widespread use of fully automated factories and 3-D printers was the increased status of hand-made goods. The trade in such product drove much trade with both the extra-solar colonies and with some of the more stable wild zones. However, both international and off-world travel continued to decline. Almost no one from Earth traveled beyond Luna, and increasing numbers never left their home nation, including orbital and Lunar settlements that were officially part of their home country. For most people, crossing national boundaries or leaving Earth-controlled space became both practically and psychologically difficult. Doing so required extensive paperwork and occasionally full background checks. Most residents of Earth's safe zones were increasingly uncomfortable with the idea of traveling anywhere that their politics, faith, morals, or even their tastes in food would be considered at all foreign or exotic. Advanced on-line interactions, including virtual tourism, multiplayer, interactive virtual reality games, and full-sensory chat rooms increasingly replaced long-distance travel and helped homogenized cultures within nations. National identities in the post-impact era became increasingly rigid and well defined.

The Wild Zones

By 2021, the only remaining wild zones were the along the west coast of South America, most of Canada and the upper midwest of North America, the blasted rubble within 300 km of the 9/11 impact site, and the vast wild zone that covered most of northern Eurasia. The small wild zones in Africa and Southeast Asia had all been reassimilated by the developed world, as has the more distant regions around the New York impact crater. These remaining wild zones contained less than 10% of the surviving world population and mostly consisted of land that was now too cold for high yield agriculture and beset with weather that is simultaneously too cold and too erratic for most other productive uses. As a result, there was little incentive for any nation to reclaim this land.

As the years went by, an increasing number of the inhabitants of these wild zones lacked the skills and training necessary for them to hold any but the most menial job, jobs that were now increasingly being taken over by advanced automation. Social scientists and policy makers predicted that the wild zones would continue to exist for many decades to come. Several nations, including the US, the SAU, and the EU also found them politically useful. These nations' combination of strict laws and universal surveillance meant that many citizens were found guilty all manner of minor infractions. Most crimes were resolved with fines. However, for serious crimes and repeat offenders, these states required other alternatives.

Except in the PRC, the death penalty had become too unpopular for any crime short of terrorism or genocide, and the legacy of the cometary winter meant that long prison terms were considered to be too wasteful. Most crimes were punished with a mixture of fines, electronic house arrest, electronically aided counseling, psychiatric drugs, short prison terms, and community service. More serious crimes were punished by exile into a nearby wild zone or, as technology advanced, a choice between mandatory psychiatric adjustment using gene therapy or infection with drug-producing retroviruses and exile into a wild zone. As a result, the wilds zones became a dumping ground for sociopaths and career criminals.

However, conditions in the wild zones were no longer quite as dire. The end of the cometary winter allowed the inhabitants of these regions to better consolidate their position and begin the long and difficult process of regaining some level of stability and organization. By the middle of this decade, all of the wild zones had gone from becoming regions inhabited by bandits and desperate scavengers to lands that were now similar to the poorest and most deprived portions of the third world that had existed near the end of the 20th century. They mostly consisted of a series of settled agricultural villages doing subsistence agriculture, as well as few small cities; typically build on the ruins of pre-9/11 cities, where the local rulers kept their armies and where the local craftspeople used manufacturing technologies that would have been familiar to the inhabitants of the 192os or 30s.

The one advantage the residents of these wild zones possessed was access to the SPS network. Making rectennas to draw upon the power beamed down from space was relatively simple and while the UN had become highly fractious and largely ineffective at anything beyond maintaining the SkyWatch defense grid, various treaties of humanitarian aid insured that the all of the wild zones received sufficient microwave power beams to meet their relatively meager needs. However, like all other resources, electricity was rarely allocated equally or fairly. Slavery and indentured servitude were common in many of these small but growing states and in most, only the wealthy elites had access to electricity.

Arcologies and the Wired Society

In the civilized portions of the Earth, the third decade of the 21st century saw the birth of the first arcologies. In an effort to insure that they survived any future catastro-

phes, many of the surviving nations began constructing large, mostly self-sufficient arcologies for their inhabitants. In addition to housing, shops, and many industries, these sprawling structures, that many visiting colonists compared to giant shopping malls, also included large greenhouses, hydroponics, and extensive automated facilities for producing vat-grown meat and similar artificial nutrients that had become popular during the last days of the cometary winter. Arcologies were most popular in the remnants of the United States, the PRC, and the EU, but they could be found throughout the world.

As arcologies grew, travel declined. Instead of physical travel, most of the inhabitants of the civilized nations of Earth increasingly relied upon electronic interactions. By the middle of this decade, more than two thirds of the population was continuously on-line, using various forms of wearable computers. These tiny devices functioned as cellphones, cameras, PDAs, GPS locators, media players, game consoles, televisions, and of course, wireless internet terminals. Known as "rigs", the most basic were small handheld devices, but increasing numbers of people wore rigs that connected to wireless glasses that offered both augmented reality and even augmented vision, in addition to their ordinary display capabilities.

Of course, all of these devices allowed the authorities, and in many nations other citizens, to monitor the wearer's movements and activities. In addition to supposedly preventing terrorism and crime, these devices were also used to reduce official corruption. By 2027, Australia, the EU, the US, and the SAU laws all required police officers, physicians, emergency personnel, and legislators to wear rigs that recorded and broadcast a full audiovisual record of their activities when they were on-duty. All of these recordings became a part of the public record.

In Australia and EU, the public had as much access to recordings as the police and other branches of the government. In the US and the SAU both the general public and the government had access to all information recorded in public places, including public buildings, but only authorized personnel could access recordings inside private homes or similar locations. In the PRC and India, the government had full access to all recordings, but private citizens had no right to access any government datafeeds. By 2038, the first implanted rigs were being used by engineers, spies, and the very wealthy. By tapping into the hearing, vision, and manual dexterity centers of the wearer's brain, wearers could receive and transmit information faster and easier than anyone using even the best wearable rigs.

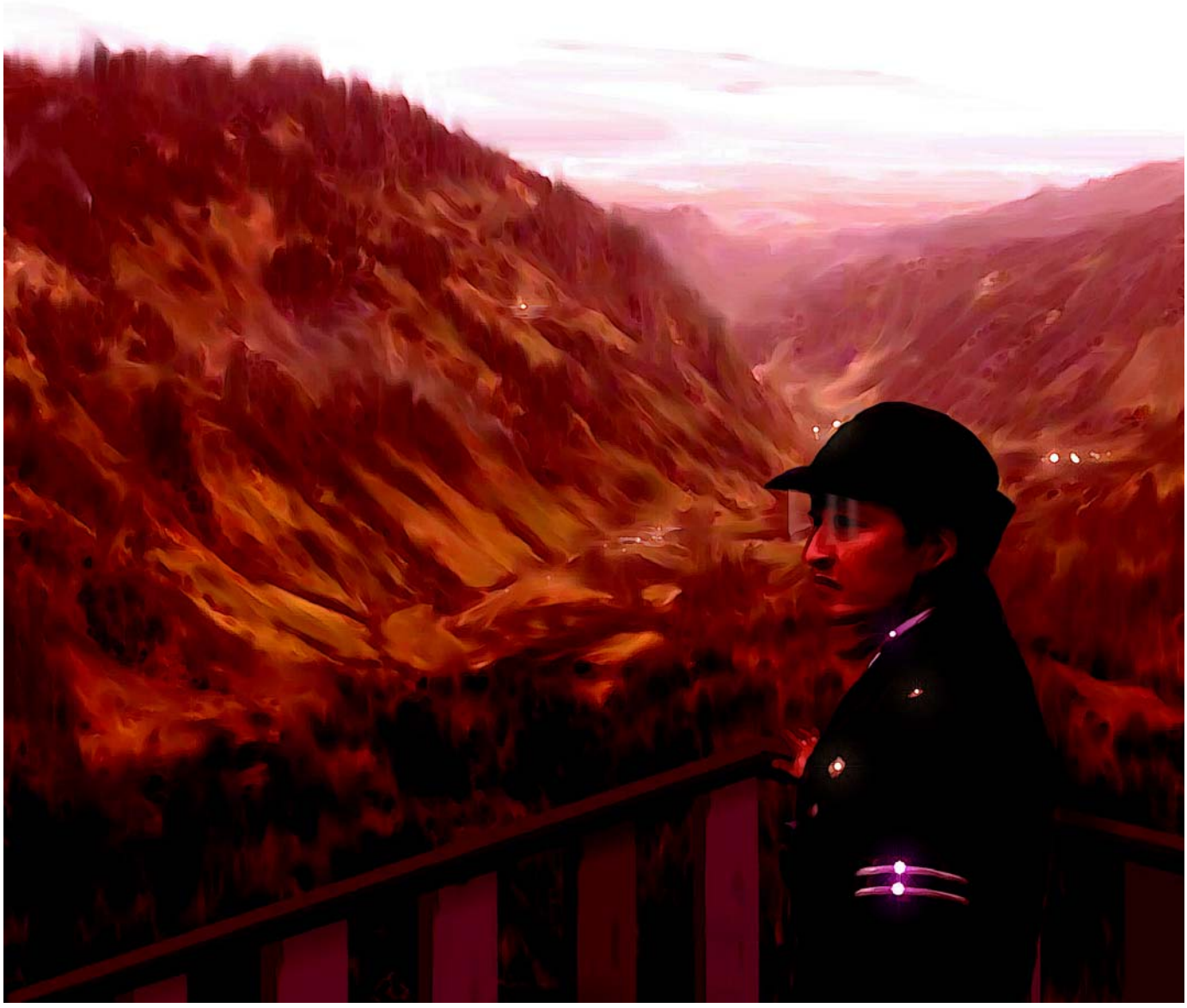
Medicine also advanced rapidly during this decade. Most nations understood the folly of the overpopulation of the late 20th century and the fact that Earth's new climate could no longer support 6 billion people. However, the trauma of The Impact had also caused a worldwide horror of more death. As a result, spending on medical research grew and religious objections to previously controversial treatments like stem cells and therapeutic cloning largely vanished as much of the world united in its desire to prolong the lives and heath of all of the survivors. By 2033, the first of the new treatments began to be released in the Australia, the EU, and the SAU. From these nations, they rapidly spread worldwide and were soon after adopted by most extra-solar colonies. These new medicines included cures for most cancers and degenerative diseases as well as anti-aging treatments that raised the average lifespan in the developed world to 120, with predictions that an average lifespan of 150 would be possible by 2051.

The Future of the Colonies

By 2011, immigration to the colonies from Earth had slowed to a trickle, and trade was no greater than it had been in 1999. However, trade between colonies continued to increase, several new colonies are founded every year, and the total population living outside of the Solar System has grown to almost 12 million. While contact with Earth is limited, Earth still remained the primary source for new technologies. Most colonists readily adopted Earth's new medicines and longevity therapies and many colonies adapted their computer networks to accommodate rigs. However, almost all rigs built in the colonies were specifically designed to protect the privacy of their users. While 3-D printers rapidly became popular, most colonists reject the use of robots to replace skilled human labor and preferred to use them only for the most menial and repetitive tasks.

Almost all colonists viewed the Earthly trend towards living in arcologies and playing years-long virtual reality games with a mixture of bafflement and disdain. Their increasing break with Earth caused colonists to place greater value on privacy, diversity, and self-reliance. Many colonies developed thriving traditions of fine hand craftsmanship. As Earth turns increasingly inward, the colonies continue to expand out into the vastness of space. However, the colonies also worry about rumors of Refuge's expanding its fleet and increasing its interstellar influence.

Recommended Campaigns and Characters



1990-1992
The Construction of the SPS System

Businessman
Civilian Scientist
Civilian Technician
Contractor
Physicist
Reporter
Security Guard
Stationer
Thief
Writer
Air Force
Marines
Rocket Corps - Line
Rocket Corps - S & S
Spy

1993-1995
The Political Shuffle

Assassin
Colonial Militant
Police
Reporter
Thief
Marines
Rocket Corps - Line
Spy

1996-2000
The Extrasolar Boom

Astrogator
Big Game Hunter
Bonded Courier
Bush Pilot
Civilian Spacer
Entertainer
Guide
Merchant
Ranch Hand
Roustabout
Stationer
Xeno-Anthropologist
Ranger
Rocket Corps - S & S
SEAL

2001-2005
The Die Off

Angel
Colonial Militant
Earth Survivor-Gatherer
Earth Survivor-Hunter
Earth Survivor- Scout
Doctor
Nurse
Priest/Minister
Reporter
Army
Marines
Ranger
Rocket Corps - Antiterrorist
SEAL

Monday, January 22nd, 1990

"Thank you, ladies and gentlemen, welcome to the show." The applause faded away, drowned out by theme music as the cameras homed in on the man sitting centre stage. "I'm Larry Elmore, and that was a clip from the November 12th broadcast, live out of Berlin when the Iron Curtain came crashing down. It has truly been a dizzying few months on the political front. The entire apparatus of the Soviet state has begun collapsing like a house of cards, from Czechoslovakia to Hungary, from the Baltic states to the Romanian revolution, from the solar colonies to the new 'Independent Republic of Novya Minsk'. 1990 has come around the corner and its message is one of freedom. Freedom, but at what cost?

"It has been just twenty-eight days since the conviction and execution of Communist dictator Nicolae Caeucescu and his wife on Christmas day 1989, on charges ranging from illegal gathering of wealth to genocide, and there appears to be no end to the radical changes going on in the Soviet territories. Here to discuss it, please welcome the man from Berlin, the very man who brought us that wonderful report -- Robert Mercer. Robert!"

As the host's smooth baritone reached its crescendo, the camera cut away to track the other man in his navy-blue suit and grey necktie, his hair tightly slicked back, but not quite slick enough to hide the streaks of grey that were slowly coming out of the woodwork. The balding host hauled himself out of his chair and shook Robert's hand while the applause rolled on. Robert made a quick wave to the audience.

The host smiled pleasantly. "Welcome to the show, Robert, thank you for coming." He let the smile linger a little bit too long. "It's your first time here, and we're delighted to have you. In fact, the Berlin Wall reports have been the rocketship that propelled you into the public eye. I mean, you were with a regional station during the reports . . ."

"That's correct, Larry," Robert replied. "Channel Six out of Bost--"

"But what I imagine everyone wants to know is," the host barreled on, paused to scratch his temple with his pen, cleared his throat, "how have these events changed you? You got your first off-planet report right after the Wall, following events on Luna, and then signed on as a field reporter with NBC. The people want to know what you have to say."

Robert shifted in his seat, straightened his tie, and bobbed a slow nod. "It's a new experience for me," he said. "The Wall, everything. I was just in the right place at the right time. I know there are some established news figures who consider me an 'upstart' and worse, though I'm not entirely sure why." He smiled at the audience, and was rewarded with a general chortle. "I'll always remember the experience, that's for sure. For a while there I thought it was going to be a massacre when these huge contragrav gunships showed up. The sky was filled with them . . . But then all the crews came out on deck, and this music started playing -- God knows where they got a hold of rock and roll in East Germany -- and they just took turns blowing holes out of the Wall while people watched."

"It sounds like a real experience. But you didn't stop there, your work on Luna especially has brought to light just how hard the Soviets are struggling to keep their country together. Do you think the USSR has a future?"

"Of course it has a future. There are millions of people that still support the Union, a majority of voters in the Soviet republics. I think that if General Secretary Gorbachev can restructure his country's economics to a free market state, we could see a revitalized Russia that would welcome the Western world as a trading partner, as opposed to ideological competition."

"You believe, then, that the Reds could live in peace with us?"

"Why not? The Soviet Russia we were dealing with even six months ago wasn't the Stalinist juggernaut we grew up to know. If you've followed the politics, Gorbachev's recent policies have put a progressively liberal slant to the country, and the current turmoil is a direct result of that. Succesful restructuring will require a major reduction in unnecessary military spending, no less than the disarmament of forty percent of the country's contragrav, space and nuclear arsenals. It may also result in grants of independence for money-sink colonies such as Kazakh in Eta Cassiopei. I certainly think this is the end of the Red Threat as we know it."

"So you aren't sad to see the Soviets go?" The host smiled then, an oily little curl of the lips. There was an edge to his question that almost announced hostile intent. Robert went on nonetheless.

"No, I can't say that I'm sad to see them go. On Luna, for example, I was covering the complete

breakdown of food supplies to the Azerba--"

"But isn't it true that you were a member of the Communist Party not six years ago?" the host asked as he leaned closer, hitting the perfect note halfway between stoic confrontation and innocent inquisitiveness. "That you were, in fact, a journal writer for the 'Socialist Free Thinker's Foundation of America' for nearly a decade during the 70s, and that you distributed pamphlets with Communist slogans to schools and universities around the San Fernando valley?" There was a rustle from the audience. People sat forward in their chairs. A few isolated islands of applause started somewhere in the audience -- probably planted by the host himself -- and carried through the crowd like shockwaves rippling outward, as people began clapping simply because others were doing it.

For a long moment, Robert hid behind his frozen smile, gathering his thoughts. The host clearly thought he'd already won. And he probably would have, if Robert hadn't received warning. He smiled, smiled until the applause started to die down, waiting for the right moment, just before it faded away . . .

"You know, it's funny you should mention that, Larry," Robert called over the muted clapping of hands. "I was just reading about the McCarthy years this morning, but I hadn't realized you were planning to pick up the torch."

The host sat back, stunned, and his face slowly turned red -- but Robert cut off his sputtered protests with a snap of his fingers. The applause was louder now, mixed with laughter. They were hailing Robert. Every camera in the studio focused on the two men's faces.

"That's not the only thing I read, either. There was a file in there, I think it was from the CIA, something about your frequent vacations to Panama and Iraq on the government's dime. I believe the word 'transport' was used, right next to the words 'cocaine', 'chemical weapons' and 'contra-grav components' . . . But they're friendly countries, right?"

Robert let the silence fall like the quiet after a lightning strike. The audience didn't dare to breathe. He let it go on until he heard the tromping boots of security personnel rushing onto the stage, and he stood up to bow for the audience as men came to remove him. In the background, the host screamed at the top of his lungs until his pacemaker gave up the ghost. The cameras hurriedly cut away to an advertising break, but too late, too late.

The crowd was chanting his name.

Playing the Game

The FTL Now RPG

The object of the game of FTL Now is to *survive*. The longer a character survives, the more skills he has. The more skills, the better chance of survival. High attributes are most important at young ages, where the character's skill levels are low. In general, skills are much more important than high stats, and a character which has low stats is not necessarily unplayable.

FTL Now is designed to be played in a linked series of adventures, with each adventure forming the highlight of that year for the character. Each adventure may be one or several sessions long. You can skip one year or several between adventures, or even go back in time, if you want to allow the character a certain script immunity. Because of its year-based character progression, FTL Now excels at this method of play. Characters can move from profession to profession as they will, if they fulfill or waive the requirements for entering the profession. In this process, each character becomes an individual person, with all an individual person's richness.

FTL Now is all about the characters, and it is their strength which propels the game.

Creating a character

The Character Generation section, together with the Skills and Equipment Sections, contain all that is necessary to create a FTL Now character. In FTL Now, you will continually be forced to decide between depth and breadth of knowledge. The deeper your character's knowledge, that is, the higher your plus rating in your skills, the better your character can use those skills. The broader your character's knowledge, the more skills you have to affect things. Your character will always be a compromise between depth and breadth. Every character is unique in FTL Now, and there is no "better" character. FTL Now characters proceed directly from the life experiences and history of the character.

Constitution

Constitution is the character's total ability to keep functioning.

> ***Constitution is the character's strength, coordination, agility, and endurance added together and multiplied times ten.***

The constitution has various levels which indicate how the character is doing:

> **Normal**
> The character is at peak condition, and functioning normally.
> **Hindered**
> The character is hurting. Initiative, To Hit, Damage, Skill, and any other %d roll is at a penalty of 20. This may be a +20 where you need to roll low as in initiative or to hit, or a -20 where you prefer to roll high, such as damage.
> **Stunned**
> The character becomes Stunned. The character can be made conscious again by shaking or shouting, but any damage will make the character Stunned again. In addition, the character is also Hindered.
> **Critical**
> The character is really hurting. The character is Stunned, cannot be woken up, and is bleeding to death at the rate of 10 points per round. The bleeding will stop if the wound is bound, another character taking one round to do so, and is defenseless while doing so.

Normal Level is 100% of constitution,
Hindered Level is 75% of constitution,
Stunned Level is 50% of constitution, and
Critical Level is 25% of constitution.

When the character is between Hindered Level and Normal Level, the character is Normal. Between Stunned Level and Hindered Level, the character is Hindered. Between Critical Level and Stunned Level, the character is Stunned. Below Critical level, the character is Critical. If the character is exactly on a level, a character functions at the level above. For instance, if a character is exactly at Hindered Level, the character is Normal.

FTL Now Task Resolution

There are three possible in-game task resolution rolls in the StarCluster System, used by FTL Now. All are performed with percentile dice:

Initiative:

Initiative rolls answer the question **"Exactly when is your best shot at attempting what you want to do?"** The lower you roll, the earlier you can go. Many times, exactly when you attempt an action is unimportant, so this roll is not needed. If the GM says "Roll Initiative," it

means that from this point until the GM tells you initiative is over, timing is vital to determine what happens. Combat is almost always done in initiative, but there are other times when initiative may be very important too - defusing a bomb, debating, sports, sealing a hull rupture, etc. It is up to the GM to call for initiative, but players may always suggest going into initiative if they feel it would be better. There are sometimes modifiers to this roll. They are always applied to the roll itself. Bonuses subtract from the roll, and penalties add to the roll.

Chance of Success:

Chance of Success rolls answer the question **"Do you succeed at what you are trying to do?"** Chance of success rolls are always of the 'roll under target number' type, but there are different ways of determining the target number to suit different circumstances. There are usually modifiers to this roll. They are always applied to the target number. Bonuses add to the target number, and penalties subtract from the target number. **A "to hit" roll in combat is a chance of success roll.** Many times, the chance of success for an action is assumed to be unnecessary, especially given enough time. Other times, the chance of success is not at all certain, and a roll must be made.

Here are the various ways of determining target numbers for chance of success:

Skill Check

Skill checks are generally used when the character has a skill that is relevant to the situation, such as a skill of surgery to deal with a bullet wound. The player can propose interesting and imaginative ways any skill can be used in any situation, but final judgement is the GM's.
In a skill check, the target number is the player character's skill chance. The base skill chance is always 45 at skill+1, with 5 added per level of skill. Thus base skill+2 is 50, skill+3 is 55, etc. To the base skill chance is added a bonus due to high scores in the governing attribute; 5 for every 2 point above 7 in STR, COOR, AGY, END, and CHAR, and 1 per point above 120 for IQ.
Thus STR 11 would get +10, COOR 8 would get +0, CHAR 10 would get +5, and IQ 127 would get +7. A character with climb+3 and AGY 11 attempting to climb a steep rockface would have a target number of (base 45 + skill level 10 + attribute 10) 65. Further situational modifiers may be given by the GM - if the cliff is of weak shale, there might be a penalty, or if the cliff is knobbed and full of handhold and footholds, there might be a bonus.

Attribute Check

Attribute checks are generally used when the player has no skill to properly apply to a situation, so the character's raw abilities are used to determine the target number.

In an attribute check, the target number is the attribute in question multiplied by a number, and modified for high values for that attribute.

The number to multiply the attribute by is determined by the difficulty of the situation. Lifting a 20 kg block of wet ice is much more difficult than lifting the same mass properly balanced with straps or handgrips. The suggested multipliers for **STR**, **COOR**, **AGY**, **END**, and **CHAR** are AttributeX1 to AttributeX5, with X1 being very difficult and X5 being moderately easy.

For **IQ**, the suggested multipliers are X1, X1/2, and X1/4, with X1 being moderately easy and X1/4 being difficult. To the base target number is added a bonus due to high scores in the particular attribute; 5 for every 2 point above 7 in STR, COOR, AGY, END, and CHAR, and 1 per point above 120 for IQ. Further situational modifiers may be given by the GM.

The attribute to use should be determined by what the character is trying to do:

STR for lifting, pushing, pulling, prying, gripping, etc.

COOR for catching, throwing, aiming, etc.

AGY for running, jumping, dancing, swimming, etc.

END for staying awake, noticing, keeping going, etc.

CHAR for convincing, lying, sweet-talking, etc.

IQ for problem solving, learning, pattern recognizing, etc.

Thus a difficult puzzle might be IQX1/4, a moderate notice check might be ENDX3, or an easy lifting job might be STRX5.

Profession Check

Profession checks are generally used when the character attempts something for which the character has no skill, but which would be usual for someone in the character's profession, such as a doctor stitching, or a biologist determining a plant species. The target number would be 3X the years spent in that profession, times the characters level in that profession. Thus a character who spent five years as a cook, and was promoted once to level 2, would have a target number of (3 X 5 = 15) X 2 = 30 for herbalism. The GM should give modifiers as appropriate.

Cover Check

A cover check is used to assess whether a character's cover is good enough to prevent an opponent's success. The target number is the amount of cover, standard cover being 0%, 25%, 50%, and 100%, while varying amounts of cover are given due to skills, such as the Dash skill. A roll under the target number means the cover succeeded in preventing the opponent's success. The GM may give bonuses or penalties due to lighting, camouflage, atmospheric conditions, etc. Cover can be used for combat, sneaking, hiding, and other attempts of the sort.

Quality of Success

Quality of success rolls answer the question **"How well did you succeed?"** The higher you roll, the better the success was. Modifiers to quality of success rolls are added directly to the roll, with bonuses increasing the roll and penalties subtracting from the roll. **A damage roll in combat is an example of a quality of success roll**, with one modifier being determined by the weapon used. Another example would be a character writing a story. The higher the quality of success roll, the better the story. Many times, quality of success is unimportant, and can be eliminated.

FTL Now Combat

The initiative system of FTL Now works on the assumption of a one-minute round. This is divided into 120 half-second segments called "initiatives". Normal initiative is between one and 100, and is decided using a %d roll. Characters who are hindered or worse have a +20 penalty to their initiative, and thus may go as late as 120. During their initiative, the character may use a weapon and attack, use a skill, or perform a major action. What constitutes a major action is necessarily left to the discretion of the GM, but certainly driving a vehicle, performing first aid, or moving long distances are major actions, and these should give the GM some indication of the use of the term.

If there is an ambush or surprise attack situation, the skill Tactics should be checked. Setting up an ambush or surprise attack requires a Tactics check and Quality of Success roll. Discovering a properly set-up ambush before walking into it requires a successful Tactics check, with the quality of success compared to that of the character setting the ambush. An END or Observe check could also be used to sense the ambush, with the quality of success compared to that of the character setting the ambush.

Alternatively, if the characters don't have Tactics, the PCs and the enemy as a whole roll %d. The results are compared. If the PC's die roll is within 20 of the enemy, there is no surprise, and normal combat begins. If the PCs roll more than 20 lower than the enemy, the PCs has surprised the enemy and get an entire round (one minute) to attack without effective reply from the enemy before normal combat begins. If the enemy rolls more than 20 lower than the PCs, the enemy gains this suprise round before normal combat begins.

If the player characters achieve surprise, they should individually roll initiative on %d, and act from lowest roll to highest. When normal combat begins, initiative is rolled. Each player rolls %d separately, and the enemy rolls collectively. Lowest roll goes first, and proceeds to highest. Characters and enemies can talk out of turn.

Player characters may trade percentile points between initiative, the to-hit roll, and damage. That is, a player may choose to delay his character's initiative in order to achieve a better percentage to hit, or take a penalty on damage to speed his initiative, or take a penalty to hit to speed up initiative and increase damage. Any initiative lower than 1 goes first, any initiative higher than 120 goes last, and in case more than one character does so, the player with the lower total goes before the others. The penalties and bonuses must equal each other - i.e. a 40 point speed up on initiative must be balanced by penalties to the to-hit roll and/or damage which equal 40. The points traded must be declared before dice are rolled, except in the case of initiative.

> **For example**. Bettina rolls a 55 on her initiative roll. She slows down her initiative by 20, pushing her up to a 75. On her initiative, her target number is 60% and she elects to raise that to 65%. She rolls a 63 and hits. Her damage would normally be a +15, but with the additional +15 left over from the initiative penalty, she does +30. She rolls an 82, which comes to 112 points of damage after bonuses are added.

Characters who have achieved **weapon mastery**, that is at least a +5 in that weapon skill, gain an extra attack each round with certain weapon types. The same holds true at every fifth level of weapon skill, i.e. +5, +10, +15, and so on. A character with a firearms skill of +11 thus would have 3 attacks per round with any firearm. These attacks should take place at intervals of 10 initiatives. Any other skill used in initiative gains the character a reroll per level of mastery.

> **For example:** Penelope, a character with Firearms+11, has 3 attacks per round with Firearms. For her initiative, she rolls a 54. If she is not hindered, she may perform an attack on initiatives 54, 64, and 74. This is referred to as 'splitting' an initiative. A character may opt to perform a small action on one of her split initiatives if the GM feels that is reasonable. For instance, Penelope uses her attack on initiative 54 to gain 50% cover behind a large boulder. Penelope may **not** use one of her three split initiatives to perform a major action, or attack with a different type of weapon, unless the same level of mastery applies to that weapon. These things take up the entire initiative.

Damage is a quality of success roll using %d plus the damage modifier of the weapon. For example, a Rifle has a damage modifier of +25, so the player rolls %d and adds 25 points, for a result between 26 and 126. If the damage modifier is negative, the number is subtracted from the %d roll, with any negative result rounded to zero, so a weapon rating of -20 would have a result of 0

to 80 points. This number is subtracted from the constitution of the character who was hit.

Combat in FTL Now tends to be short, brutal, and bloody, but seldom deadly. One side of the combat will usually end up unconscious, with a few seriously wounded, and possibly one or two dead. This is good for the game, and good for the players, as losing a single combat usually means they are taken prisoner, rather than dead.

Ranges

Ranges in FTL Now are given by weapon as chance of success modifiers. A weapon's range rating is one of the following:

Point Blank - Within 2 meters. This is the range for all held weapons that must be used held in the hand, like most blades and melee weapons.

Short - Between 2 and 10 meters.

Medium - Between 10 and 50 meters.

Long - Between 50 and 250 meters.

Far - Between 250 and 1000 meters.

Very Far - Between 1000 and 2000 meters.

A weapon's Range rating is the range at which it is normally effective, that is, at a penalty of zero. The next range higher is always at minus 40% to hit, the range after that is impossible to hit. Closer ranges give a +5% for each of the next two range steps, giving a +5% to hit for the next nearer range step and +10% for the next range step closer than that. Targets closer than this are impossible to hit with this weapon.

For example: Mike has a Firearms+5 and a COOR of 9. This gives him a base to hit percentage of 65% to hit "Skin" for Firearms weapons, modified up +5% for his coordination to 70%. Using an Auto Pistol, with a Range rating of "Medium", Mike hits targets with "Skin" armor at medium range at the normal percentage, which is 70%. At "Long" range with this weapon, Mike has a -40%, or 30% chance to hit. At one step nearer, or "Short" range, Mike has a +5% or 75% chance to hit. At one more step closer, that goes up 5% again, to 80% at "Point Blank" range.

In a further example: Mike uses a Sniper Rifle, with a Range Rating of "Far". If the target (wearing "Skin" armor) is at Far range, Mike has a 70% chance to hit. If the target is at "Very Far" range, Mike has a -40% modification giving him a 30% chance to hit. At "Long" Range, Mike has a +5%, or 75% chance to hit. At "Medium" range, he gets a further +5% to hit, increasing his chance to 80%. At "Short" range and closer, Mike cannot hit the target, as it is too close. If the target is further away than "Very Far", Mike cannot hit the target because it is too far away.

Cover

Cover is the use of obstructions to decrease the probability of being hit. Examples are hiding behind a rock, or firing from around a doorway. In the StarCluster system, normal cover is rated in 4 steps: 25% cover, 50% cover, 75% cover, and 100% cover. The effects of such cover are given below.

25% Cover - The target is behind a small rock or tree, or perhaps an obscuring curtain of cloth or leaves. If the shooter rolls a hit, a second roll against the cover is made. A roll of 26 or higher, unmodified, is a true hit, anything lower hits the cover instead of the target. The target has no penalty to return fire.

50% Cover - The target is behind a low wall, or shooting around a doorway or a large tree, or something similar. If the shooter rolls a hit, a second, unmodified roll is made against the cover. A roll of 51 or greater is a true hit, anything else hits the cover. The target has a -25% penalty to return fire.

75% Cover - The target is in a well protected position, firing through a loophole or small window, or some similar situation. If the shooter rolls a hit, a second roll against the cover is made. A roll of 76 or higher, unmodified, is a true hit, anything lower hits the cover instead of the target. The target has a 50% penalty to return fire.

100% Cover - The target is entirely behind some large, solid object, and cannot be hit. The target cannot return fire, as doing so will reduce the cover to a 75% rating at least. Cover should be adjudicated by the GM using the examples above.

Poison

Poison can be used in combat, and can be made by characters with the Drug, Herbalism, or Chemistry skills. The chance to make a poison is equal to the normal skill chance minus 20, thus if the character has a skill chance of 50%, the chance to make poison is 30%. Poisons made with the Chemistry or Herbalism skill have a minus 20% on their effectiveness, while poisons made with the Drug skill have a plus 20% on their effectiveness. Natural poisons used by creatures have a normal effectiveness. If poison is made, The GM and player should adjudicate it's toxicity and any antidotes.

Healing

Healing can be accomplished several ways. Normal healing takes place over time, at a rate of 20 points a day. A successful diagnosis skill check adds a bonus of +20% to the success of the treatment, drug, herbalism, or surgery skills. With a successful drug or herbalism skill check, the regimen boosts the rate of healing by another 30 points a day. A successful treatment or surgery skill check adds a bonus of another 30 points a day.

You can't use certain skills in combination. For instance, surgery and treat work with different methods in a similar manner. Thus they cannot be used on the same person at the same time. The same holds true for drug and herbalism. **The maximum natural healing rate, therefore, is 80 points a day. This assumes normal healing (20), plus either drug or herbalism (+30), plus either surgery or treatment (+30).** Normal healing requires a minimum of seven hours of sleep per night and nonstrenuous work for the duration. Without both of these conditions being met, no healing will occur.

Armor

Armor in FTL Now works to prevent you from being hit. The classes of armor are:
Skin The base condition. No armor, or very little.
Ballistic A somewhat tougher to hit armor, impact resistant and ablative.
Ceramic A mix of Ballistic armor and ceramic plates.

Applicable Skills

In running a FTL Now game, you may find that for a given situation there are several skills which can be applicable. For instance, Jack Jill, and Judy all need to get over a fence. Jack says he would like to use Dash and flip over it, Jill wants to use Gymnastics to vault it, while Judy wants to use her Climb skill to climb it. All these are perfectly applicable to the situation. In many cases you will have to use your judgement as to which skill is applicable, but generous use of common sense is indicated.

Remember, if you feel that in the given situation a different check would be more suitable, go with your instincts. These are guidelines, not hard and fast rules. We laid out these several methods to give GMs a choice, as we felt that the GMs, who know more about the given situation than we ever could, would be the best ones to decide.

Weapons and Skills

The "Skill Required" column in the Equipment: Weapons guide refers to the skill required to wield the weapon effectively. Anyone can pick up a pair of nunchaku and whack at things with them, but it takes real skill to use effectively. A person using a weapon uses it at the lowest level of the appropriate skill unless their skill level meets or exceeds the skill required to wield the weapon effectively.

For example: Margaret, with a skill of melee+3, attempts to wield nunchaku, which requires a skill level of melee+4. Margaret will be effectively melee+1 while using the nunchaku until her melee skill is at least melee+4. At that point, Margaret can use the nunchaku to its full potential and has an effective skill of melee+4 with the nunchaku.

Damage is prorated to the level of skill the weapon wielder possesses. For instance an axe has a damage rating of +30 and requires a skill level of melee+2. The damage is divided by the level and rounded down, so that the axe has a damage rating of +15 in the hands of a person with a skill level melee+1 and a damage rating of +30 in the hands of a person with a skill level of melee+2. To return to Margaret, our example from before, she has the following to hit and damage ratings at various skill levels:

At 15 Margaret gets Melee+1, making her a Melee+1. She uses a Nunchaku with a 45% chance to hit and a damage of +5.

At 18, Margaret gains a Melee+1, making her a Melee+2. She is still 45% to hit and her damage is now +10.

At 22, Margaret gains a Melee+1, making her a Melee+3. She is still 45% to hit and her damage is now +15.

At 30, Margaret gains another Melee+1, making her a Melee+4. She is now 60% to hit, and her damage is the full +20, which is the maximum damage with this weapon.

People with no skill in the appropriate weapon type inflict damage as if at the character were at skill level +1, but halved.

For example: Before she was 15, Margaret wielded a Nunchaku at a damage rating of (+5)/2 or +3.

Automatic fire

Automatic fire weapons such as assault rifles, machine guns, and submachine guns can fire more than one bullet with each pull of the trigger. When using automatic fire weapons, there are three possible modes of operation:

Single Shot:

When using single shot mode, one bullet for each pull of the trigger. This is treated exactly the same as a normal rifle or pistol. Assault rifles and submachine guns can use single shot modes.

Burst Fire:

With burst fire, the weapon fires three rounds with each pull of the trigger. This gives the best compromise between ability to hit and damage. One roll of the dice is made. The first round is at -20% to hit, the second at -40%, and the third at -60%.

For example: Bob hits skin at 85%. He rolls a 35. The target number of 85 is dropped 20 for the first round for a result of 65, which is higher than the roll, so the first round hits. The second round fired is at -40, resulting in a target number of 45, which again is higher than the roll of 35. so the second round also hits. The third round is at -60, resulting in a target number of 25, which is lower than the roll of 35, so the third round misses. Assault rifles, submachine guns, and machine guns can use Burst Fire.

Full Automatic (Suppressive) Fire

Full automatic fire is generally used to pin down the enemy in heavy cover, giving them substantial penalties in firing. It is primarily a defensive option, but if the fire happens to hit an unprotected human, the results are generally lethal. For example, a machine gun is pinning down a small group of three in a rockpile. They are safe as long as they stay under cover. If one of the three breaks cover, a roll to hit is made by the machine gunner.

On a hit, 1d10 rounds hit the target. If full automatic fire is used against unsuspecting targets out in the open, cover rules are not used for the first round. Full automatic fire is very useful against vehicles. Submachine-gun rounds cannot penetrate any vehicle armor, while machine gun rounds can penetrate light armor. Suppressive fire can be achieved with volley fire from a group of weapons as well as a single weapon on full automatic fire.

A successful suppressive fire pins down the opponent so he can't move without risking being hit. A Quality of Success roll for the suppression can be directly applied to the opponent as a negative modifier on his Chance of Success. Half of the Quality of success is the penalty for full automatic fire, one quarter the Quality of Success should be used for volley fire.

For example, a machinegun is being used to suppress fire from three enemies using rifles. The suppression is successful, and the machinegunner makes a Quality of Success roll of 45. The three enemies have a negative modifier of 23 on their attempts to hit this turn.

Grenades

Grenades burst in an area of effect 10 feet (approx. 3 meters) in diameter. The character using the grenade picks a particular target. On a hit, the target suffers the grenade's standard damage. If any other character is within the area of effect, and the number rolled for the original hit would hit that other character with a -30 penalty, that character is also hit. Cover rules apply, but the cover must be between character and blast.

For example, Joe throws a grenade onto a group of three enemy in the wood. He has a target number of 65% with grenades, and hits the target with a roll of 20. The target number of 65 -30 is 35, which is above his roll of 20, so both other characters in the radius of effect are also hit. The trees provide some cover, so each of the three characters make cover rolls. The first roll, for the target, fails, as does the second, but the third cover roll succeeds. Thus targets one and two are hit by the blast, while a tree happens to be between 3 and the blast, and thus he suffers no damage.

Other area of effect weapons such as mines, volleys, artillery fire, etc. use the same process as above, varying in the radius of their area of effect and the damage suffered on a hit. Area of effect weapons can be smothered at great risk. A character can throw herself on a grenade if within the area of effect. If she does, the character suffers 4 times the damage she would normally with no chance of cover. This does protect any others in the area of effect from the blast. Throwing oneself on a grenade is an act of great heroism, and few such heroes survive.

Ammunition Use

A full minute round gives time for a lot of shots to be traded. Assume a character is using up a full allotment of ammo per round - that is if the ammo is in clips, the player uses up a clip. If the ammo is in a feed chamber as in a revolver or repeating rifle, the full chamber is used up. Single shot weapons use only the number of shots actually taken.

General Knowledge and Languages

There are a lot of situations in which the character has unquantifiable knowledge, such as general geographic knowledge of an area or perhaps cultural knowledge of a people. In these cases, the GM should decide if the player knows anything concerning the situation based on the character's background, and how much the character knows. The level of knowledge can be placed as 4 basic categories: None, Acquainted, Competent, and Fluent.

None means the character has no knowledge or only the most rudimentary knowledge of a situation.
Acquainted means the character has some knowledge, but that knowledge is sparse and incomplete.
Competent means that the character's knowledge is quite good, and the character can be expected to know quite a bit concerning the subject.
Fluent means that the character knows anything a native of the area or equivalent would know. Fluent does not mean the character knows everything.

These categories should be used for languages as well. The skill of linguistics is the study of languages from the inside, as it were, so that one skilled in linguistics can learn languages quickly from first principles, and can decipher languages because the roots of the language are known and the differences can be deduced. Most people cannot learn languages from these operational principles, they learn them from doing. The GM should decide what languages the characters speak, and at what level of competence.

A person with a Fluency in a language is automatically rated competent in any nonnative dialect of that language, and is automatically rated as Acquainted in related languages. For example, a Fluency in Standard German means the person is automatically Competent in the Bavarian dialect and is automatically Acquainted with Dutch. This simulates the fact that root words can be similar enough to be understandable between languages. A German speaker would be able to - say - ask where the bathroom is and be generally understandable to a Dutch speaker with a bit of effort on both parts, but would be unable to have anything approaching a normal conversation. With Competence, the people involved can communicate normally, but many subtleties are lost. No one would mistake a Competent person as a native. With Fluency, all shades of meaning come through, true translations become possible, and one can pass as a native, all other things being equal.

Levels of Mastery

Levels of mastery are skill levels at the multiples of +5 (+5, +10, +15, etc.) Each level of mastery gives the character repeated attempts at success. In combat, this translates to multiple attacks per round. A character with a single level of mastery gains a second attack, while one with double mastery (+10) has three attacks per round. Repeated attacks wouldn't mean much for - say - a biology check, so for non-combat skills, each level of mastery gains the character a re-roll if the previous roll fails.

For example, a character with a skill level of +11 not only has a base success chance of 95%, but if the first roll is a failure, the character has 2 re-rolls to make it. A character with a double mastery should almost never fail at that skill.

Descriptions of Success or Failure

The players should describe what they are attempting to do with a success or failure, whether in combat or non-combat. The GM interprets the degree of success/damage roll according to what was attempted

For example:

Paula: "A 38! That's a hit! I thrust the combat knife into the guard's belly and rip up!" Paula:"I roll for damage - a 52, plus 20 from my initiative, +0 for the knife, makes 72 total."

GM: "Ahhh - the guard shudders and jerks away from you, twisting toward Yves. A spatter of blood rains down underneath him. Yves? You are next."

Yves: "I swack him away from me with my baton. Umm - drat! That's a 74! A miss! I needed a 65 or less!"

GM: "Your blow lands on the curved helmet of the guard and glances off, deflecting the force into a tree."

Complex Problems and Solution Points

If you have a complex task that you don't want to be solved too quickly, you can assign the task a number of Solution Points, which work like Constitution works in combat. The number of points you assign should be proportional to the difficulty of the task. Limit the attempts at solution to one per unit on the list below, depending on your idea of the speed of the task.

Task units:
1 min, 2 min, 4 min, 8 min, 15 min, 30 min, 60 min/1 hr, 2 hrs, 4 hrs, 8 hrs, 15 hrs, 24 hrs/1 day, 2 days, 4 days, 7 days/1 week, 2 weeks, 4 weeks/1 month, 2 months, 4 months, 6 months, 12 months/1year

For example: A player wants to hack into a government computer system. You assign - say - 500 points, and allow attempts once an hour. That should draw the task out, especially if you have counter-attacking ICE taking points back!

Characters can push the time between checks down by taking risks. Increasing the time by 1 step would be -10, making success either 10 points more likely, or making success 10 points more useful. Decreasing the time by 1 step would be +10, so you'd either have to reduce the value of success by 10, getting less done, or reduce the chance of success by 10.

For example, say fixing a car took 100 points to do, with a half-hour per check. If you didn't have enough time, you could reduce the time between to 5-minute checks; -30% to chance (reducing your chances of success notably) or -30 to the value (meaning you rush to get just one more thing done).

Conversely, one could take longer to achieve a task, gaining consequent bonuses to chance and/or quality.

Note that with levels of mastery, truly skilled people could afford to save time or improve progress much more frequently

99 Angel

She came down in a ship the color of midnight
She came on a breath of the northeast wind
She came down to me with the scent of roses
My heart was poundin' and my head was aspin

99 Angel
99 Angel
99 Angel
Bathed in the light in the middle of night
99 Angel
99 Angel
99 Angel
Face so fine and her hair would shine

I was living in hell on the edge of nothing
Living in a hell of the deepest kind
She came down to me and my breath was frozen
Looking so clean that she made me blind

I looked at myself and I knew I was dirty
I looked at myself and I looked like scum
She looked at me with her eyes of compassion
I knew right then it was too late to run

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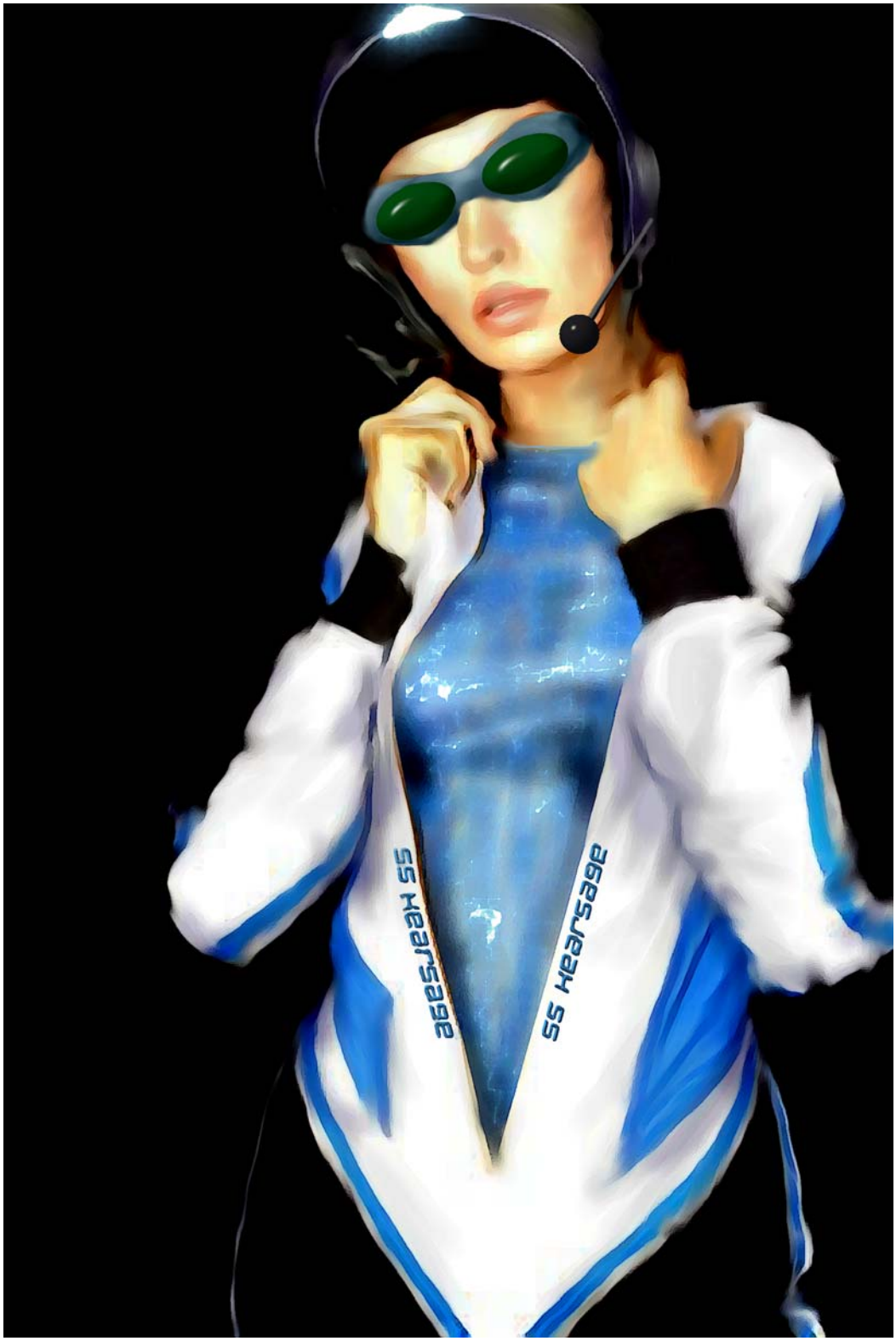
FTL Now
Character Generation



Character Generation Procedure

The first thing to determine is the character's culture. The GM will also work with you to determine your character's "Mother's Milk" skills, based on the character's culture and particular background. These Mother's Milk skills are skills the character has learned before the age of 10 - thus "absorbed with the mother's milk. Every character has 4 of these Mother's Milk skills before the age of 10. See "Appendix C" on page 203.

It should be noted that the character can possibly move around from nation to nation after the character is born. This should be worked out with your GM as you are preparing the character for play.

The GM may give you an age range at which it is appropriate for the character to begin play. As the character ages, wealth increases and skills increase, but physical stats decline, so what might be challenging for a character in her late twenties could be boring for a character in her mid fifties. The GM has reasons for recommending a particular age range.

Adventures typically define the most important part of a year in the character's life, even if they only take a few weeks to complete, or even a few hours. The balance of the year, the character should be doing whatever characters do in their boring hum-drum lives. At the end of the adventure, the character should age another year on the worksheet. You and the GM will together decide which is the appropriate profession to describe what the character has done for the adventure, and you can then choose from the appropriate skill tables as you wish. If a Physical Deterioration is appropriate, take care of that just as you would while generating the character.

One thing to remember is that your character is having adventures all the time, even while you are generating him. You are just not acting those adventures out. The is no real difference between a year which has been generated and one which has been acted out. You can generate a character to age 25, take part in an acted out adventure for year twenty-six, generate from 27 to 41, and act out another for year 42.

Another thing to remember is that the character is not just arbitrarily drifting from job to job. **When a character changes employment, it can be thought of as a movement within a larger career.** For instance, if a character goes through a Military College and becomes a Army officer, then after a few years becomes a Spy, doesn't mean he ever stopped being an Army Officer, unless you want it to mean that. In that case he would be in Military Intelligence. Your character can also always return to professions you have left, retaining all his promotions and pay.

There are two different ways to create a standard character, Directed and Template. Template Characters are 26 years old, and have already had school and work experience. These are much faster to create than standard characters, but are necessarily somewhat less individual. Directed Characters take more time, and are a lot more individualistic than Template Characters.

Directed Method

Place initial characteristics and cash

You have 35 points to apportion between Strength, Coordination, Agility, Endurance, and Charisma. These stats can be used as is. If the GM wants more heroic stature characters, bonus points may be given.

You have 165 points to apportion between IQ, LUCK, and Cash. These are raw scores, and should be looked up on the appropriate table for your Tech Level. For example an IQ score of 50 is equal to an actual IQ of 109.

Strength is the character's muscular prowess. Strength is used in Melee, Blade, and Unarmed combat. Strength is usually abbreviated as **STR**

Coordination is the linking of see, will, and do, quickness and deftness in fine motor skills. Coordination is used in Bow and Firearms. Coordination is usually abbreviated as **COOR**

Agility. Agility is acrobatics, gymnastics and whole body movement. Agility helps your character with running, jumping, climbing, and any other activity using the whole body. Agility is usually abbreviated as **AGY**

Endurance is the ability to keep going. Endurance helps your character with tasks that are repetitive, long lasting, or performed under adverse circumstances. Endurance is usually abbreviated as **END**

IQ (Intelligence Quotient) is smarts, problem solving, the ability to see significance and pattern.

LUCK is the ability of the character to dictate the terms of a situation for all concerned for one minute/round. The LUCK rating is the number of times a character can use this ability per session.

Cash is what your family has set aside for your educa-

tion. What you don't use up on education becomes your property.

Charisma is attractiveness and persuasiveness, and is half physical and half mental. The proportion starts mostly as physical, but increasingly becomes mental as the character ages. Charisma is usually abbreviated as **CHAR**

These are the character's abilities at the age of ten. The character is not finished growing, and will physically change as age and experience modify the character

Schooling

Character is age 10. Choose a Junior High School - get 6 skills in 4 years

In the Schools Section, select a Junior High School you would like your character to go to. If your character has the money and meets the minimum requirements, great. Deduct the money from the character's starting total
If you have the money but don't meet the minimum requirements, or meet the requirements but don't have the money, try for a waiver. Roll the amount listed or less, and the requirements are waived for you. Add +1 to your target number for each point of IQ over 120. The character may waive either the cost or the prerequisite (if allowed), but not both.

If you don't make it into any Junior High Schools, or you just don't feel the character would have tried for anything else, use the "Public Junior High School" column.

Choose four times from the table, once for each year, then double the results in two of those years, i.e. if you got a result of Strength, write down "Strength+2" on your worksheet. If the result is a bonus to a characteristic rather than a skill (i.e. strength or coordination+2, etc.) modify the appropriate characteristic in lieu of gaining a skill. If the character gains a skill for the first time, that skill is at level one (i.e. blade+1). If the character receives a skill already gained, that skill level is modified upward (i.e. blade+2).
In lieu of choosing a skill from the table, the character may choose from among the social skills available.

Character is age 14. Choose a High School - get 6 skills - 4 years

In the Schools Section, select a High School you would like your character to go to. If your character has the money and meets the minimum requirements, great. Deduct the money from the character's starting total
If you have the money but don't meet the minimum requirements, or meet the requirements but don't have the money, try for a waiver. Roll the amount listed or less, and the requirements are waived for you. Add +1 to your target number for each point of IQ over 120. The character may waive either the cost or the prerequisite (if allowed), but not both.

If you don't make it into any High Schools, or you just don't feel the character would have tried for anything else, use the "Public High School" column.

Choose four times from the table, once for each year. Then double the skill in two of those years, i.e. if you selected a result of Strength, write down "Strength+2" on your worksheet. If the result is a bonus to a characteristic rather than a skill (i.e. strength+1 or coordination+2, etc.) modify the appropriate characteristic in lieu of gaining a skill. If the character gains a skill for the first time, that skill is at level one (i.e. blade+1). If the character receives a skill already gained, that skill level is modified upward (i.e. blade+2).
In lieu of rolling or choosing a skill from the table, the character may choose from among the social skills available.

College & Grad School

In the Schools Section, select a College you would like your character to go to. If your character has the money and meets the minimum requirements, great. Deduct the money from the character's starting total. Unlike Junior High or High School, Colleges and Trade Schools may be entered at any time at age 18 or above, and your character may go to as many as you can afford.
If you have the money but don't meet the minimum requirements, or meet the requirements but don't have the money, try for a waiver. Roll the amount listed or less, and the requirements are waived for you. Add +1 to your target number for each point of IQ over 120. The character may waive either the cost or the prerequisite (if

allowed), but not both.

If you don't make it into any College or Trade Schools, or you just don't feel the character would have tried for anything, go directly to Employment.

Choose once from the table for each year spent. Then double the skill in one of every two of years, i.e. if you got a result of Strength, write down "Strength+2" on your worksheet. If the result is a bonus to a characteristic rather than a skill (i.e. strength+1 or coordination+2, etc.) modify the appropriate characteristic in lieu of gaining a skill. If the character gains a skill for the first time, that skill is at level one (i.e. blade+1). If the character receives a skill already gained, that skill level is modified upward (i.e. blade+2).

In lieu of taking a skill from the table, the character may choose from among the social skills available.

Unlike Junior High or High Schools, the character can go to College or Grad School at any time, its just more usual to go at age 18. You can also go to a second college later on.

If you select a college with no cost, that means you must spend the six years *after* you leave college/grad school in service to those who sponsored your education. If an employment lists that school as a prerequisite, entering that employment for six years is considered full payment of your educational debt. If you go to both college and grad school by this means, both debts must be fulfilled in the order you incurred them at the rate of 1.5 years in employment for each year in school (i.e. three years for every two). During these years, you may not change your employment.

Directed or Template Characters

Out into the World

Employment

Select a profession from the appropriate section. If you meet the prerequisites, you are in that profession as long as you wish to stay. If you do not meet the prerequisites, you may attempt a waiver roll. Each year in that employment, the character receives one skill by rolling or choosing from the table listed for that profession. For every six years or fraction thereof your character spends in any one profession, you may select one skill to be doubled, i.e. if your character spends 10 years in a profession, the skill chosen in two of those years may be doubled.

In lieu of rolling or choosing from the skill on the table, the character may choose from among the social skills available.

The character may leave an employment at any time, and may rejoin the employment at a later date. However, if the character does not meet the minimum requirements, the player must again roll waivers.

Roll every 2 years in profession for promotion.

01-35 promotion
36-00 no promotion

With each promotion, your character's level within that profession increases. Note this on your character worksheet in the following fashion: the first year in a profession is always level one. This is notated so, using the profession of Athlete as an example: Athlete/1/1. The second year is also always at level one, and is notated thusly: Athlete/2/1. Note the years in the profession come first, then the level within the profession. At the end of the second year in the profession, roll for promotion. A %d result of 35 or lower gains the character a promotion. Note the promotion under "promotions" on the worksheet with a "yes," and the next year, note the promotion as follows: Athlete/3/2.

Pay is increased by promotion. On the Employment tables under Yearly Income the starting pay is listed (i.e. $5k start) and the amount by which the pay increases with each promotion (i.e. $5k jump.) The amount listed as pay is the amount an average person in that profession has as "disposable income" - i.e. the amount left over after basic needs are met. This assumes modest but not frugal living standards appropriate to the position.

Aging

Every 3 years starting at age 34, the character will deteriorate physically. Choose one characteristic from either STR, COOR, AGY or END and lower the stat by one.

This reflects the debilitating effects of aging on the character. **This deterioration happens even after characters join play, and can never be avoided.** The effects of aging can be mitigated or reversed by the character finding employment which increases characteristics, but that comes in lieu of gaining skills.

LUCK

The LUCK number is a resource rather than a stat. By

using it, for a very short while, everything falls the character's way. The minute-long time the LUCK is in use can be used to dictate NPC actions and reactions, place NPCs at a disadvantage, get out of horrific danger by lucky flukes, or most anything short of dictating player character actions, moving the game out of genre or setting, or causing death to any character directly. In some cases the GM may need to arbitrate, but the GM is encouraged to use this with a light hand.

Good Examples of LUCK

"When the nasty executive dives out of the careening Mercedes, I leap on top of him, grabbing him by the throat and rolling with him down the hill."

"The Spetznaz soldier had the magazine in his AK-47 cocked slightly, and it jams when he tries to shoot Evelyn."

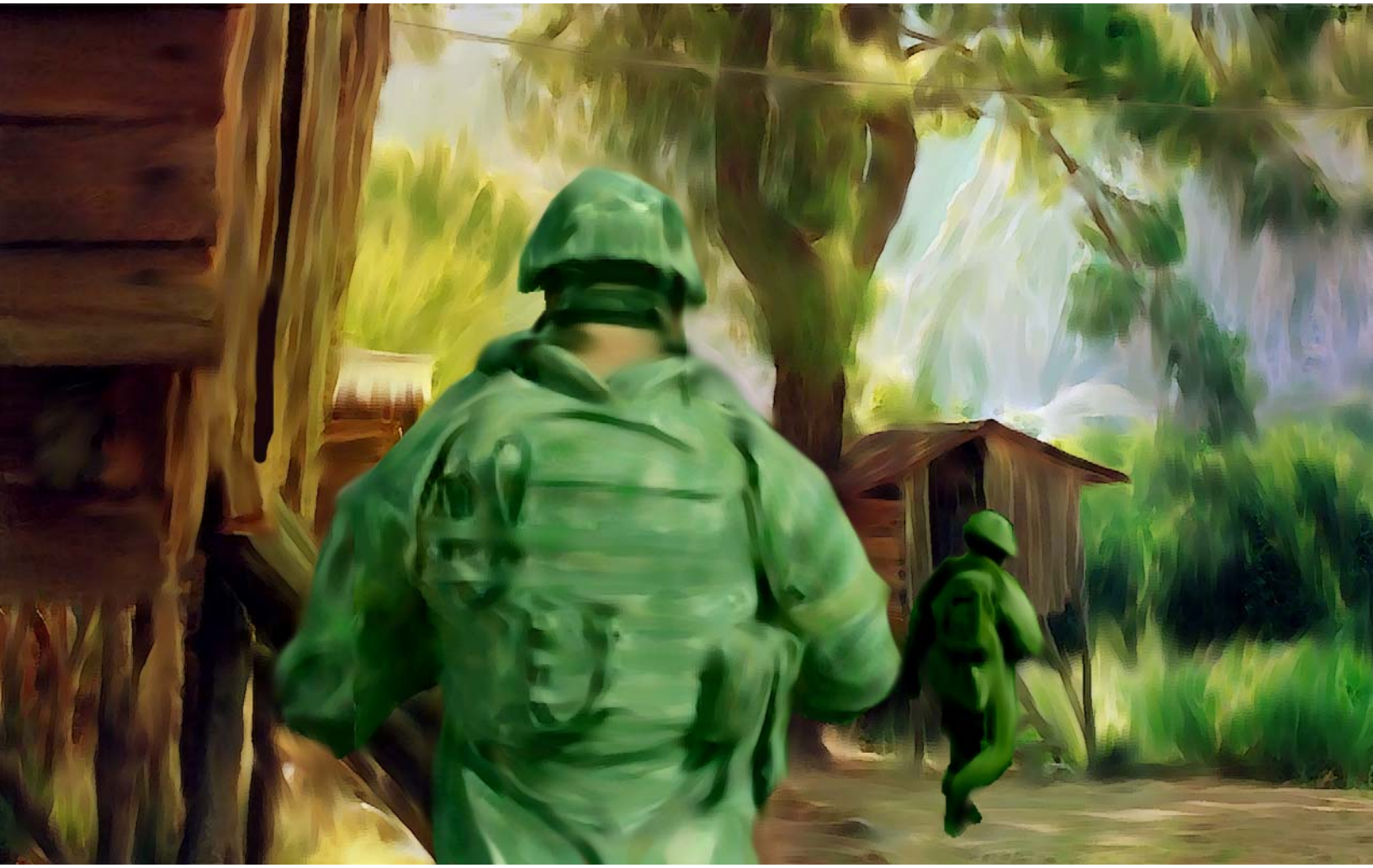
"When I challenge the Marine to try a HALO jump from space onto the island, he and all the other guys in the bar get excited about it and start betting."

Bad Examples of LUCK

"When the nasty executive dives out of the careening Mercedes, I shoot him in the throat, sending his body rolling down the hill."

"The Spetznaz soldier targets Evelyn with his AK-47[, but it morphs into a cold wet mackerel in his hands."

"When I challenge the Marine to try a HALO jump from space onto the island, Joe and Hillary and the other PCs get excited about it and start betting."



Template Characters

Another way of speeding up character creation is to use pregenerated Template characters. This gives a typical character just out of college, fully fleshed out, but at a young age. The player or GM can modify this with subsequent years of skill acquisition and add the attributes. All of the following templates were created using the Determined method of character generation outlined in the Character Generation section of the core rulebook. All of these characters have been generated up to the age of 21 - i.e. graduation from college. These do *not* include Mothers Milk skills, as those are determined by the character's background. The GM is encouraged to create more templates as needed.

Public MS -> Arts HS -> Arts College

STR: COOR: AGY: END: IQ: LUCK: CHAR:+4
Money: $39,000

Skills: Endear, Writing, Streetwise+2, Music+4, Disguise+2, Meditation, Engrace, Taste, Entice+2

Public MS -> Technical HS -> Engineering (Tech) College

STR: COOR:+2 AGY:+2 END: IQ:+30 LUCK: CHAR:
Money: $45.000

Skills: Operate, Electronics+4, Mechanics, Repair, Computer, Analyze, Physics+2

Military MS -> Military HS -> A&M College

STR: COOR:+2 AGY: END:+2 IQ: LUCK: CHAR:
Money: $45,000

Skills: Blade+2, Gymnastics+2, Organize+2, Firearms+2, Leadership, Mathematics, React, Overdo+2, Observe, Computer+2

Public MS -> Private Prep HS -> Exclusive College

STR: COOR: AGY:+2 END:+4 IQ: LUCK: CHAR:
Money: $125,000

Skills: Research, Mathematics+5, Astronomy+2, Analyze, Engrace, Entice, Psychology+2, History+2

Public MS -> Public HS -> Liberal Arts College

STR:+4 COOR:+4 AGY: END: IQ: LUCK: CHAR:
Money: $30,000

Skills: Endear, Writing, Overdo, Biology+3, Astronomy, Electronics+2, Research+2, History, Convince+2

Parochial MS -> Parochial HS -> Nursing College

STR: COOR:+4 AGY:+4 END: IQ: LUCK: CHAR:
Money: $42,000

Skills: Operate, Focus, Goad, Biology+2, Analyze+2, Focus, Drug+2, Diagnosis, Observe, Treatment+2

Military MS -> Military HS -> Military Academy College

STR:+2 COOR:+4 AGY: END:+2 IQ: LUCK: CHAR:
Money: $25,000*

Skills: Overdo++2, Leadership+4, Firearms+3, Observe, Psychology, Unarm, Tactics+2,

Parochial MS -> Parochial HS -> Seminary College

STR: COOR: AGY: END: IQ:+10 LUCK: CHAR:+3
Money: $17.500**

Skills: Convince+2, Meditation+4 Writing+3, Research+2, Psychology+2, Instruction+2

Parochial MS -> Tech HS -> Science College

STR: COOR:+2 AGY: END: IQ: LUCK: CHAR:
Money: $39,000

Skills: Goad+2, Linguistics, Biology+2, Physics+4, Chemistry, Computers+2, Weather, Atomic+2

Public MS -> Public HS -> Educational College

STR:+4 COOR: AGY:+4 END: IQ:+20 LUCK: CHAR:
Money: $0***

Skills: Operate, Gymnastics, Convince+2, Mathematics, Writing +2, Computer+2, Instruct+2, Organize+2, Psychology

Public MS -> Public HS -> Business College

STR: COOR:+2 AGY: END: IQ: LUCK: CHAR:+2
Money: $20,000

Skills: Adapt, Negotiate+2, React, Analyze+2, Organize+2, Math, Convince, Sell+2, Business+2, Negotiate

Public MS -> Public HS -> Agricultural College

STR+2: COOR: AGY: END:+5 IQ: LUCK: CHAR:
Money: $20,000

Skills: Overdo, Operate, Biology+4, Chemistry+2, Mechanics, Training, Weather, Husbandry+2

Parochial MS -> Gifted HS -> Liberal Arts College

STR: COOR:+2 AGY: END: IQ:+20 LUCK: CHAR:
Money: $50,000

Skills: Focus, Mathematics+5. Physics+2, Astronomy+2, Writing, History, Research+2, Goad

Public MS -> Military HS -> A&M College

STR:+4 COOR:+4 AGY: END:+2 IQ: LUCK: CHAR:
Money: $32,500

Skills: Overdo, React, Astronomy+2, Firearms+3, Alert, Organize+2, Onserve+2, Computer

* Owes six years service to the Military. Choose any Military Profession
** Owes six years service as a Priest
*** Owes six years service as a Teacher

FTL Now Character Generation Tables

Consult this table for IQ, LUCK, and Cash when using Directed Method

Points allocated)	IQ	LUCK	Cash
01-09	70	1	$4,500
10-20	80	1	$7,500
21-25	85	1	$9,000
26-30	90	1	$10,500
31-35	95	1	$13,500
36-39	100	1	$18,000
40-42	105	1	$19,500
43-47	107	1	$21.500
48-50	109	1	$25,500
51-53	111	1	$27,000
54-59	113	1	$30,000
60-63	115	2	$33,000
64-67	117	2	$36,000
68-71	119	2	$39,000
72-75	121	2	$40,500
76-79	123	2	$42,000
80-83	125	2	$84,000
84-87	127	3	$126,000
88-91	129	3	$150,000
92-93	131	3	$171,000
94-95	133	3	$214,500
96-97	135	4	$300,000
98-99	137	4	$390,000
00	140	5	$450,000

Description of Schools:

Middle School

Ages 10-13. These schools train the student in the fundamentals of learning while training the child's growing body. For determined character creation, choose four from the skills available and double two. Repeat four times, and double results for two of those years, player's choice.

High School

Ages 14-17. The character's physical growth is tapering off, while the intellectual growth begins full flowering. For determined character creation, choose four from the skills available and double two. Repeat four times, and double results for two of those years, player's choice.

College

Ages 18 and up. The character's physical growth is almost done, while the intellectual growth reaches its full potential. For determined character creation, choose four from the skills available and double one. Repeat four times, and double results for two of those years, player's choice.

Graduate School

Ages 22 and up. The character chooses intensive specialization in certain subjects. For determined character creation, choose one from the skills available for each year you attend, and double results for years which are multiples of two - i.e. years 2, 4, 6, 8, etc.
After two years, the character receives a Master's Degree. After four years, a Doctorate. After eight years, a double Doctorate.

One may attend College and Graduate School at any time, but Middle and High Schools must be attended during the years assigned them

Player Option

Instead of doubling a standard skill, the player may choose to take two different skills.

Doubling Attribute Bonuses

If a player chooses to double an attribute rather than a skill, that attribute may not be doubled again while attending the same school.

Middle Schools

Public Middle School

A 4 year school where the student learns the rudiments of scholastic skills.
Prerequisites: none
Waiver Roll: None **Cost:** $0
Skills available: Convince, Goad, Endear, React, Adapt, Operate, Overdo, STR+2, COOR+2, AGY+2, END+2, CHAR, IQ+5, Writing, Research, Gymnastics, Mathematics, Negotiate, Streetwise

Parochial Middle School

A 4 year school where the student learns the rudiments of scholastic skills in a religious setting.
Prerequisites: none
Waiver Roll: 15% **Cost:** $5,000
Skills available: Convince, Goad, Endear, Engrace, React, Adapt, Operate, Overdo, STR, COOR+2, AGY+2, END, CHAR+2, IQ+10, Writing, Focus, History, Mathematics, Meditation, Linguistics,

Military School

A 4 year school where the student learns the rudiments of scholastic skills in a rigorously disciplined setting.
Prerequisites: STR 8 or more, COOR 8 or more
Waiver Roll: 20% **Cost:** $12,500
Skills available: Goad, Engrace, React, Adapt, Operate, Overdo, STR+2, COOR+2, AGY+2, END+2, CHAR, Blade, Research, Gymnastics, Leadership, History, Organize

High Schools

Public High School

A 4 year school where the student learns the minimum scholastic skills necessary for college.
Prerequisites: none
Waiver Roll: None **Cost:** $0
Skills available: Convince, Goad, Entice, Endear, Engrace, React, Adapt, Operate, Overdo, Biology, Chemistry, Physics, Writing, Mathematics, Astronomy, Cooking, Analyze, Electronics, Mechanics, Business, Computer, STR, COOR, AGY, END, CHAR, IQ+5

Parochial High School

A 4 year school where the student learns the necessary scholastic skills in a religious atmosphere.
Prerequisites: IQ 110 or higher
Waiver Roll: 15% **Cost:** $12,500
Skills available: Convince, Goad, Entice, Endear, Engrace, React, Adapt, Operate, Overdo, STR, COOR, AGY, END, CHAR, IQ+10, Biology, Chemistry, Physics, Writing, Mathematics, Astronomy, Research, Organize, Analyze, Focus, Psychology, Gymnastics, Linguistics, Alert, Observe, History

Military High School

A 4 year school where the student learns scholastic skills along with discipline and responsibility.
Prerequisites: Military Junior High School or END 8 or more
Waiver Roll: 20% **Cost:** $12,500
Skills available: Goad, React, Adapt, Operate, Overdo, STR+2, COOR, AGY, END+2, CHAR, IQ+5, Biology, Chemistry, Physics, Writing, Mathematics, Astronomy, Organize, Blade, Firearms, Climbing, Alert, Focus, Leadership, Observe, Psychology

Private Prep School

A 4 year school where the student learns the scholastic skills and comportment necessary to enter a prestigious college.
Prerequisites: IQ 110 or higher
Waiver Roll: 10% **Cost:** $25,000
Skills available: Convince, Goad, Endear, Engrace, React, Operate, Overdo, Biology, Chemistry, Physics, Writing, Mathematics, Astronomy, Analyze, Convince, History, Gymnastics, Leadership, Computer, STR, COOR+2, AGY+2,.END, CHAR+2, IQ+5, Psychology, Sociology, Linguistics, Swimming, Observe, Intimidate

Technical High School

A 4 year school where the student learns the scholastic and technical skills necessary for a technical career.
Prerequisites: IQ 110 or higher, and either Mathematics+1 or Electronics+1, or Computer+1
Waiver Roll: 10% **Cost:** $5,000
Skills available: Convince, Endear, React, Adapt, Operate, Overdo, Biology, Chemistry, Physics, Writing, Mathematics, Astronomy, Organize, Carpentry, Electronics, Mechanics, Business, Computer, STR, COOR+2, AGY, END+2, CHAR, IQ+10, Analyze, Operate, Overdo, History, Evaluate, Repair

Arts High School

A 4 year school where the student learns scholastic and artistic skills.
Prerequisites: CHAR 8 or higher, COOR 8 or higher
Waiver Roll: 20% **Cost:** $9,000
Skills available: Convince, Goad, Entice, Endear, Engrace, Operate, Overdo, Biology, Chemistry, Physics, Writing, Mathematics, Astronomy, Organize, Blade, History, Focus, Meditation, Gymnastics, STR, COOR, AGY+2, END+2, CHAR+2, IQ+5, Music, Disguise, Driving, Observe, Painting, Sculpture

High School for the Gifted

A 4 year school where the student learns scholastic skills at an accelerated pace.
Prerequisites: IQ 120 or higher
Waiver Roll: 05% **Cost:** $15,000
Skills available: Convince, Goad, Endear, React, Adapt, Operate, Overdo, Biology, Chemistry, Physics, Writing, Mathematics, Astronomy, Computer, Electronics, Analyze, History, Linguistics, Overdo, STR, COOR, AGY, END, CHAR, IQ+15, Psychology, Sociology, Analyze, Minerology, Research, Weather

Colleges

Liberal Arts College

A 4 year school where the student learns important scholastic skills.
Prerequisites: Any High School
Waiver Roll: 15% **Cost:** $30,000
Skills available: Convince, Goad, Entice, Endear, Engrace, Operate, Overdo, Drugs, Mathematics, Business, Writing, Chemistry, Biology, Research, History, IQ+5, Driving, Drinking

Arts College

A 4 year school where the student learns scholastic and artistic skills.
Prerequisites: Arts High School
Waiver Roll: 20% **Cost:** $30,000
Skills available: Convince, Goad, Entice, Endear, Engrace, Adapt, ComputerMechanics, IQ+5, Observe, Painting, Sculpture, Music, COOR, Taste, AGY, Writing

Military Academy

A 4 year school where the student learns scholastic and military skills to prepare for a military career.
Prerequisites: Military High School and IQ 120 or higher
Waiver Roll: 05%
Cost: No monetary cost. Character must serve 6 years in any profession with Military Academy listed as a prerequisite.
Skills available: Convince, Goad, React, Adapt, Operate, Overdo, History, Strategy, Tactics, Firearms, Unarm, Leadership, END, IQ+10, Survival, Cryptography, Demolition

Exclusive College

A 4 year school where the student learns scholastic skills from the best teachers money can buy.
Prerequisites: Private Prep School or IQ 120 or higher
Waiver Roll: 10% **Cost:** $100,000
Skills available: Convince, Goad, Entice, Endear, Engrace, Operate, IQ+5, Analyze, Chemistry, Business, History, Psychology, Biology, Mathematics, Astronomy, Drinking

Seminary College

A 4 year school where the student learns the rudiments of scholastic skills.
Prerequisites: Any High School
Waiver Roll: 15% **Cost:** No monetary cost. Character must serve 6 years in any profession with Seminary College listed as a prerequisite.
Skills available: Convince, Endear, Engrace, React, Adapt, Overdo, Focus, Writing, Negotiate, Instruct, Psychology, Research, Meditation, Streetwise, Observe, History, CHAR

Agricultural & Military (A&M) College

A 4 year school where the student learns military and farming skills.
Prerequisites: Any High School
Waiver Roll: 20% **Cost:** $20,000
Skills available: Goad, Endear, React, Adapt, Operate, Overdo, Tactics, Driving, Leadership, Firearms, Organize, Observe, Husbandry, Biology, Herbalism, Computer, Minerology

Science College

A 4 year school where the student learns the rudiments of scholastic skills.
Prerequisites: High School for the Gifted, or Technical High School and IQ 120 or more
Waiver Roll: 05% **Cost:** $29,000
Skills available: Convince, React, Adapt, Operate, Overdo, Focus, Weather, Chemistry, Analyze, Physics, Mathematics, Research, Biology, Computer, Atomic, Observe

Nursing College

A 4 year school where the student learns the specific skills needed in Nursing.
Prerequisites: Any High School
Waiver Roll: 15% **Cost:** $15,500
Skills available: Convince, Goad, Entice, Endear, Engrace, Adapt, Overdo, Research, Computer, Analyze, Drug, Biology, Organize, Chemistry, Diagnosis, Observe, Psychology, Treatment

Educational College

A 4 year school where the student learns to teach others.
Prerequisites: none
Waiver Roll: None **Cost:** $No monetary cost. Character must serve 6 years as a Teacher.
Skills available: Convince, Goad, Endear, Engrace, React, Adapt, Overdo, Brawl, Alert, Research, END, Psychology, Instruct, Observe, Computer, Intimidate, Negotiate, Organize

Trade School College

A 2 year school where the student learns the basics of a profession
Prerequisites: Any High School
Waiver Roll: 30% **Cost:** $10,000
Skills available: As Profession
Sill Tables: roll 2d6
Use one of the following Profession tables:
Artist, Businessman, Civilian Spacer, Civilian Technician, Entertainer, Police, Reporter

Business College

A 4 year school where the student learns Business skills.
Prerequisites: none
Waiver Roll: None **Cost:** $20,000
Skills available: Convince, Goad, Entice, Endear, Adapt, Operate, Overdo, Streetwise, Drinking, Analyze, Psychology, Negotiate, Business, Sell, Tactics, Evaluate, Intimidate, CHAR

Agricultural College

A 4 year school where the student learns basic scholastic and agricultural skills.
Prerequisites: Any High School, Farm Background
Waiver Roll: 15% **Cost:** $20,000
Skills available: Endear, React, Adapt, Operate, Overdo, END, Weather, Mechanics, Herbalism, Biology, Chemistry, Training, Husbandry, Business, Ride, Mineralogy

Engineering (Tech) College

A 4 year school where the student learns advanced technical and scholastic skills.
Prerequisites: Technical High School
Waiver Roll: 25% **Cost:** $40,000
Skills available: Convince, Goad, React, Adapt, Operate, Overdo, Repair, Focus, Analyze, Electronics, Physics, Mechanics, Mathematics, Computer, Observe, Construction, IQ+10

Graduate School

Graduate School

A 2 year (Masters) or 4 year (Ph.D.) school where the student learns more intensely the skills learned in any undergraduate college.
Prerequisites: Any College
Waiver Roll: 10% **Cost:** $40,000
Skills available: As College Selected
Skill Tables: Use College Table Selected

Medical School

A 4 year school where the student learns medical diagnosis and treatment skills.
Prerequisites: Liberal Arts College or Exclusive College
Waiver Roll: 05% **Cost:** $.300,000, plus Internship for 3 years
Skills available: Convince, Goad, Entice, React, Adapt, Operate, Overdo, Focus, Research, Observe, Diagnose, Treatment, Drug, Surgery, Analyze, Biology, Psychology, Computer

Military Specialty School

A 1 year school where the character learns more intensely the skills learned in the character's current military profession.
Prerequisites: As Profession
Waiver Roll: 10% **Cost:** $40,000
Skills available: As Profession
Skill Tables: Use Profession Table Selected

Internship

A 3 year intensive medical training and service program.
Prerequisites: Medical School
Waiver Roll: None **Cost:** $0
Skills available: Convince, Goad, Entice, React, Adapt, Operate, Overdo, Research, Biology, END, Treatment, Diagnose, Drug, Surgery, Drinking, Chemistry. Computer

Law School

A 3 year school where the student learns the practice and theory of Law.
Prerequisites: Liberal Arts College or Exclusive College
Waiver Roll: 10% **Cost:** $250,000
Skills available: Convince, Goad, Entice, Endear, Adapt, Overdo, Streetwise, Business, Analyze, Negotiate, Law, IQ+5, Intimidate, Psychology, Research, Evaluate, Organize

Officer Candidate School

A 2 year (Masters) or 4 year (Ph.D.) school where the student learns military skills.
Prerequisites: Agricultural and Military (A&M) College
Waiver Roll: 10%
Cost: No monetary cost. Character must serve 6 years in any profession with Military Academy listed as a prerequisite.
Skills available: Convince, Goad, React, Adapt, Operate, Overdo, History, Strategy, Tactics, Firearms, Unarm, Leadership, END, IQ+10, Survival, Cryptography, Demolition

Career Skills

Angel

A person who returns to Earth to rescue people and technology, and bring them to space. Angels are altruists, who just want to help, despite their lack of requisite skills. They learn on the job, thought they don't earn much money.
Prerequisite: none
Waiver: N/A
Yr. Income: $3k start $3k jump
Skills available: Convince+2, Goad, Entice+2, Endear, Adapt+2, React, Overdo+2, Operate, Drugs, Surgery, Firearms, Melee, Brawl, Pilot, Drive, Biology, Mechanics, Electronics, Course, END, Cook

Artist:

A person that has talents in the visual arts, such as painting, sculpture, and computer graphics.
Prerequisite: CHAR+8, COOR+10 or Art College
Waiver: 20%
Yr. Income: $3k start $6k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear+2, Engrace, Adapt, CHAR, Streetwise, Drug, Drinking, Painting, Sculpture, Smithing, Construction, Taste, Computer, Observe, Negotiate, Sociology, Psychology

Assassin:

A person who is hired to kill a specific person, utilizing various means, some subtle, and some overt
Prerequisite: Melee, Firearm or Blade, Firearm or Reform School
Waiver: 25%
Yr. Income: $3k start $9k jump
Skills available: Convince, Goad+2, React+2, Adapt+2, Operate, Overdo, Picking, Sleight, Sneaking, Disguise, Intimidate, Sneaking, Firearms, Blade, Melee, Brawl, Firearms, Drug, Demolition, Snare, Streetwise, Focus, Demolition

Astrogator

A person who charts courses and determines position in space. Astrogators find out where we are, where are we going, and how we get there.
Prerequisite: Astronomy+1, Course+1
Waiver:5%
Yr. Income: $9k start $9k jump
Skills available: Adapt, React+2, Overdo+2, Operate, Astronomy, Course, Analyze, Physics, Mathematics, Observe, Organize, Repair, Research

Athlete:

A person who plays a sport at a professional level, including baseball, football and other team sports, as well as swimming, track, skiing, and other individual sports.
Prerequisite: One physical Attribute 10 or more, two other physical Attributes 8 or more, CHAR 8 or more
Waiver: 10%
Yr. Income: $6k start $12k jump
Skills available: Convince, Goad, Entice, Endear, Engrace+2, React+2, Adapt+2, Operate, Overdo+2, STR, COOR, AGY, END, CHAR, Business, Negotiation, Tactics, Psychology. Drug, Drink, Leadership, Martial Arts

Attorney:

A practicing lawyer, either as an advocate in court, or as a counselor in private.
Prerequisite: Law School
Waiver: 05%
Yr. Income: $15k start $20k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear+2, Engrace, React, Adapt, Operate, Overdo, Law, CHAR, Writing, Psychology, Negotiation, Business, History, Research, END, Drugs, Drink

Big Game Hunter

A person who takes people throughout the Oikumene to hunt animals for sport. Some big game hunters choose to photograph rather then shoot their prey, but the skills are similar otherwise.
Prerequisite: Tracking+2, Firearms+2
Waiver:15%
Yr. Income: $3k start $9k jump
Skills available: Goad, Adapt+2, React+2, Overdo+2, Operate, Tracking, Snare, Firearms, Blade, Tactics, Observe, Biology, Survival, Riding, React, Organize, Alert, Adapt, Climbing, Course, Sneaking

Bonded Courier

A person who hand-carries data and packages from colony to colony. Bonded couriers are proven, trusted and resourceful individuals - this is not an entry level position.
Prerequisite: CHAR 8+, Endear+1, Firearms+2
Waiver: 5%
Yr. Income: $12k start $12k jump
Skills available: Convince, Goad, Endear+2, Engrace+2, Adapt+2, React+2, Operate, Pilot, Negotiate, Law, Organize, Psychology, React, Alert, Driving, Course, Martial Arts, Streetwise, Stash, Sneaking, Linguistics

Businessman:

A person who runs a business, from mid-level management on up.
Prerequisite: Business Trade School or Business School
Waiver: 25%
Yr. Income: $6K start $9k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear, Engrace, React, Adapt+2, Operate, Overdo, Business, Negotiate, Strategy, Tactics, Driving, Leadership, Law, Stash, CHAR, Alert

Bush Pilot

A person who pilots small planes into undeveloped areas. Bush Pilots are invaluable in the Oikumene, where they are the lifeline for scattered settlements on many worlds.
Prerequisite: Pilot+2
Waiver:5%
Yr. Income: $6k start $6k jump
Skills available: Convince, Goad, Entice, Adapt, React+2, Overdo, Operate+2, Pilot, Course, Astronomy, Planetology, Observe, React, Firearms, Mechanics, Stash, Survival, Weather

Civilian Spacer:

A person that is part of the crew of a civilian spaceship. This profession covers many different disciplines, because most civilian ships have small crews required to cover for each other.
Prerequisite: Computer+2, IQ 100 or more or Engineering College
Waiver: 85%
Yr. Income: $9k start $9k jump
Skills available: Convince, React+2, Adapt+2, Operate+2, Overdo, Pilot, Atomic, Computer, Electronics, Stash, Mechanics, Brawl, Astronomy, Course

Civilian Scientist:

A person that specializes in one or more of the sciences. Civilian scientists are interested in science for science's sake, though they are frequently employed for practical purposes by corporations.
Prerequisite: Science College or Engineering College
Waiver: 85%
Yr. Income: $12k start $15k jump
Skills available: Goad, Convince+2, React, Adapt+2, Operate+2, Overdo, Biology, Chemistry, Physics, Mechanics, Astronomy, Atomic, Research, Computer, Electronics

Civilian Technician:

A person who is hired by the military for technical work. Techs are hired for their expertise in various narrow fields.
Prerequisite: Engineering College or any technical skill =4 or better.
Waiver: 95%
Yr. Income: $9k start $12k jump
Skills available: Goad, Entice, Convince, React, Adapt+2, Operate+2, Overdo, Mechanics, Electronics, Computer, Atomic, Negotiate, Driving, Research, Evaluate

Colonial Militant

A person who works - usually violently - to free a colony from its parent state. Some militants become disillusioned with their own militancy after a time, and leave the field to younger, more passionate idealists.
Prerequisite: none
Waiver: N/A
Yr. Income: $3k start $3k jump
Skills available: Goad+2, Adapt+2, React, Overdo, Operate, Firearms, Demolition, Crypt, Sleight, Stash, Observe, Organize, History, Instruct, Psychology

Colonist:

A person attempting to settle an off-world colony. Colonists have to be skilled to adjust to the many strange challenges they face in settling a strange world.
Prerequisite: Biology+2 or Chemistry+2 or A&M College
Waiver: 90%
Yr. Income: $3k start $3k jump
Skills available: React, Adapt+2, Operate+2, Overdo+2, Husbandry, Herbalism, Alert, Mechanics, Mineralogy, Biology, Carpentry, Smithing, Weather

Computer Tech

A person who specializes in computers, programming, and networking. Techs have focused on computers, sometimes to he detriment of their social lives.
Prerequisite: computers+1
Waiver:10%
Yr. Income: $6k start $6k jump
Skills available: Goad, Adapt, React, Overdo+2, Operate+2, Computer, Electronics, Analyze, Crypt, Evaluate, Focus, Repair, Streetwise, Negotiate

Contractor:

A person who makes structures and vessels, from stations and habitats to spaceships, from homes to office buildings.
Prerequisite: Construction+2
Waiver: 20%
Yr. Income: $9k start $9k jump
Skills available: Convince, Goad+2, React, Operate+2, Overdo+2, Carpentry, Demolition, Mechanics, Construction, Electronics, Computer, Zero-G, Brawl, Streetwise

Detective

A person who analyzes clues to determine guilt or innocence in a crime. Most detectives are policemen, though some are private detectives.
Prerequisite: Analyze+1, Survival+1
Waiver: 5%
Yr. Income: $3k start $3k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear, React, Adapt, Operate, Overdo+2, Firearms, Streetwise, Observe, Analyze, Alert, Negotiate, Sneaking, Pick, Evaluate, Intimidate, Psychology

Doctor:

A person who specializes in healing disease and injury. Doctors are highly educated specialists who are dedicated to their craft.
Prerequisite: Medical School and Internship
Waiver: 05%
Yr. Income: $15k start $25k jump
Skills available: Convince, Goad, Adapt+2, Operate+2, Overdo+2, Diagnosis, Biology, Treatment, Surgery, Drugs, Psychology, COOR, Research, Blade, END

Earth Survivor - Gatherer

An Earth survivor who has learned how to gather wild and feral produce to survive.
Prerequisite: Herbalism+1
Waiver:10%
Yr. Income: $3k start $3k jump
Skills available: Adapt+2, React, Overdo+2, Herbalism, Biology, Weather, Survival, Melee, Organize, Observe, Cook, Alert, Construct

Earth Survivor - Hunter

An Earth survivor who has learned to hunt and scavenge to survive.
Prerequisite: Survival+1, Any Weapon +2
Waiver:10%
Yr. Income: $3k start $3k jump
Skills available: Goad, Adapt+2, React, Overdo+2, Firearm, Bow, Melee, Tracking, Snare, Biology, Observe, Focus, Weather, Survival, Alert, Sneaking

Earth Survivor - Scout

An Earth survivor who has learned how to find paths and investigate new lands.
Prerequisite: Course+1, Survival+1
Waiver: 5%
Yr. Income: $3k start $3k jump
Skills available: Adapt+2, React, Overdo+2, Climbing, Course, Sneaking, Observe, Alert, React, Gymnastics, Cook, Blade, Focus, Evaluate, Pick, Survival

Entertainer:

A person who entertains people for a living, such as comedians, singers, talk show hosts, and the like.
Prerequisite: Art College or CHAR 12 or higher.
Waiver: 20%
Yr. Income: $3k start $9k jump
Skills available: Convince+2, Goad+2, Entice, Endea+2r, Engrace+2, CHAR, Sleight, COOR, Music, Psychology, Stash, Gymnastics, Writing, Negotiate, Streetwise, Drugs, END

Farm Hand

A person who works on a farm for hire.
Prerequisite: END 8+, Operate
Waiver:20%
Yr. Income: $3k start $3k jump
Skills available: Adapt, React, Overdo+2, Operate+2, Husbandry, Biology, Herbalism, END, Weather, Observe, Mechanics, Firearms, Repair, Smithing

Guide

A person who makes a living by eco-tourism, guiding tourists to wilderness sites.
Prerequisite: Course+1, Survival+1
Waiver15:%
Yr. Income: $3k start $6k jump
Skills available: Convince, Goad, Entice, Endear+2, Adapt+2, React+2, Overdo, Operate, Firearms, Melee, Observe, Biology, Survival, Riding, React, Organize, Alert, Adapt, Climbing, Course, Mechanics, Construct, Herbalism, Linguistics, Psychology, Planetology, Weather

Medical Researcher

A person employed in finding new techniques and treatments for healing.
Prerequisite: Research+2 and either Treatment+2, Surgery+2, or Drugs+2
Waiver:5%
Yr. Income: $9k start $9k jump
Skills available: Convince, Overdo+2, Operate+2, Research, Treatment, Drugs, Surgery, Chemistry, Biology, Mathematics, Observe, Analyze

Merchant:

A person who buys and sells cargo on colonies and space stations. Merchants are generally small businessmen rather than corporate managers.
Prerequisite: IQ 100, END 8 or higher
Waiver: 50%
Yr. Income: $3k start $15k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear, Adapt, Operate, Evaluate, Negotiate, Business, Taste, Stash, Sell, Intimidate, Law, Mechanics, Psychology

Musician

A person who makes a living by musical performance.
Prerequisite: Music+1
Waiver:5%
Yr. Income: $3k start $6k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear+2, Engrace, Overdo, Operate, Electronics, Carpentry, Writing, Taste, Streetwise, Psychology, Observe, Music, Meditation, Evaluate

Nurse:

A person who cares for the sick and injured, usually but not always working with and for doctors.
Prerequisite: Nursing College
Waiver: 05%
Yr. Income: $3k start $3k jump
Skills available: Convince, Goad+2, Entice, Endear+2, Engrace, React+2, Adapt, Operate+2, Overdo+2, Sociology, Biology, Chemistry, Psychology, Diagnosis, Treatment, Computer, Drugs, Research, Drugs, Brawl, Driving, Alert

Martial Artist:

A person who is an expert in personal combat. Martial Artist usually are teachers of their particular art.
Prerequisite: Martial Arts+5 or melee+5 or blade+5
Waiver: 05%
Yr. Income: $3k start $3k jump
Skills available: Goad, Entice, Engrace+2, React+2, Adapt+2, Overdo+2, Blade, Martial Arts, Melee, STR, COOR, AGY, END, Focus, Meditation, Evaluate, Gymnastics, Sneak

Physicist

A scientist who investigates the fundamental properties of the universe.
Prerequisite: Physics+3
Waiver: 5%
Yr. Income: $9k start $12k jump
Skills available: Convince, React, Overdo+2, Operate+2, Electronics, Observe, Analyze, Astronomy, Chemistry, Focus, Instruct, Mathematics, Physics, Research

Police:

A person trained in legal coercion and criminal justice. Policemen are trained to maintain order and protect people from harm.
Prerequisite: Law Enforcement Trade School or Law+1, END 8 or higher or Law+1, Firearms+2
Waiver: 25%
Yr. Income: $3k start $3k jump
Skills available: Convince+2, Goad, React, Adapt+2, Operate+2, Overdo, Law, Writing, Psychology, Negotiate, Firearms, Melee, Driving, Drugs, Evaluate, Intimidate, Pick, Research, Riding

Priest/Minister:

A person ministering to the spiritual needs of a neighborhood. Usually they become important and trusted community leaders.
Prerequisite: Seminary College
Waiver: 10%
Yr. Income: $3k start $3k jump
Skills available: Convince+2, Goad+2, Entice, Endear+2, Engrace, Adapt, Overdo, Streetwise, CHAR, Leadership, Writing, Psychology, Negotiate, Intimidation, CHAR

Ranch Hand

A person who is hired to protect and guide herds of domestic food animals.
Prerequisite: Riding+1, Firearms+1
Waiver:10%
Yr. Income: $3k start $6k jump
Skills available: Goad+2, Entice, React, Overdo+2, Operate, Weather, Husbandry, Riding, Firearms, Course, Mechanics, Survival, Snare, Tracking, Rope, Alert, Cook

Reporter:

A person who is able to obtain information for the general public, through a medium such as radio, newspapers, TV, or the internet.
Prerequisite: Char+10, End+8, Writing+1 or Liberal Arts College or Exclusive College
Waiver: 25%
Yr. Income: $3k start $6k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear, Engrace, React, Adapt+2, Operate, Overdo, Brawl, Streetwise, Psychology, Research, Negotiate, Law, CHAR, Writing, Driving, Drinking

Roustabout

A person who performs manual labor - particularly loading and unloading cargo.
Prerequisite: END 8+, STR 8+
Waiver:50%
Yr. Income: $3k start $3k jump
Skills available: Goad, Adapt, React, Overdo+2, Operate+2, END, STR, Mechanics, Organize, Climbing, Alert, Stash, Streetwise, Repair, Melee, Brawl

Security Guard:

A person who is hired to protect something or someone.
Prerequisite: Any College
Waiver: 80%
Yr. Income: $3k start $3k jump
Skills available: Goad+2, React+2, Adapt, Operate, Overdo+2, END, Melee, Alert, Firearms, END, Driving, Drug, Streetwise

Stationer:

A person who lives and works on a space station.
Prerequisite: Zero-G+1
Waiver: 50%
Yr. Income: $3k start $6k jump
Skills available: Convince, Goad, Entice, Endear+2, Engrace, Adapt+2, Operate+2, Zero-G, Electronics, Construct, Cook, Brawl, Evaluate, Biology, Mechanics, Computer, Psychology

Teacher:

A person trained as an instructor of any of several skills, especially training children.
Prerequisite: Liberal Arts College, IQ 110 or above or Education College
Waiver: 45%
Yr. Income: $6k start $6k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear, Engrace, Adapt, Overdo, Sociology, CHAR, END, Organization, Alert, Focus, Convince, Psychology, Streetwise, Intimidate

Thief:

A person who survives using quickness of hand and mind, especially to steal property.
Prerequisite: COOR 10 or more, AGY 8 or more or Reform School
Waiver: 35%
Yr. Income: $3k start $3k jump
Skills available: Convince+2, Goad, Entice+2, React+2, Adapt, Operate, Overdo, Forgery, Sneak, Sleight, Gymnastics, Streetwise, Alert, Focus, Firearm, Melee, Driving, Pick

Unemployed:

A person that has no employment.
Prerequisite: N/A
Waiver: N/A
Yr. Income: $0
Skills available: Convince, Goad, Entice, Endear, Engrace, React, Adapt, Operate, Overdo, Streetwise, Drug, Driving, Streetwise, END, Brawl, Drink

Writer

A person who makes a living by writing - fiction or non-fiction.
Prerequisite: Writing+1
Waiver:15%
Yr. Income: $3k start $6k jump
Skills available: Convince+2, Goad+2, Entice+2, Endear+2, Engrace, Adapt, Overdo, Writing, Taste, Drinking, Focus, History, Observe, Organize, Psychology

Xeno-Anthropologist

A person researching the proto-sapient species on Tau Ceti.
Prerequisite: Research+2, Biology+2
Waiver:5%
Yr. Income: $62k start $9k jump
Skills available: Convince, Entice, Endear+2, Adapt+2, Overdo+2, Observe, Analyze, Biology, Sociology, Herbalism, Tracking, Weather, Writing, END, Climbing, Sneaking

Military Careers

Air Force:

Member of the air-based armed services.
Prerequisite: Military Academy or Officer Candidate School, IQ 100 or more, COOR 8 or more
Waiver: 10%
Yr. Income: $3k start $6k jump
Skills available: Goad, Entice, Engrace+2, React, Adapt, Operate+2, Overdo, Pilot, Electronics, Physics, Astronomy, Gunnery, Biology, Mechanics, Research, Computer, END, COOR, Zero-G, Focus

Army:

Member of the land-based armed services
Prerequisite: STR 8 or more, END 10 or more, or Military Academy or Officer Candidate School
Waiver: 40%
Yr. Income: $3k start $3k jump
Skills available: Goad+2, React+2, Adapt, Operate, Overdo+2, Electronics, Mechanics, Driving, Survival, Alert, Leadership, Tactics, Strategy, Gunnery, Psychology, Firearm, Unarm, Melee

Colonial Militia

A military-trained colonist who voluntarily protects and defends the colony.
Prerequisite: END 8+
Waiver: 50%
Yr. Income: $3k start $3k jump
Skills available: Goad, Adapt, React, Overdo, Operate, Discipline, Firearms, Tactics, Strategy, Leadership, Focus, Melee, Unarm, Gunnery, Mechanics, Organize

Marines:

Member of the Air/Sea/Space ground-fighting elite armed services.
Prerequisite: Military Academy or Officer Candidate School or END 9 or more, STR 9 or more
Waiver: 05%
Yr. Income: $3k start $6k jump
Skills available: Goad, Engrace, React+2, Adapt+2, Operate+2, Overdo+2, Zero-G, Survival, Alert, Tactics, Strategy, Driving, Gunnery, Insertion, Leadership, Firearm, Unarm, Blade, Dash, Gyrojet

Medic:

A military person who cares for the sick and injured.
Prerequisite: Nursing College
Waiver: 25%
Yr. Income: $3k start $3k jump
Skills available: Convince, Goad+2, Entice, Endear+2, Engrace, React+2, Adapt, Operate+2, Overdo+2, Surgery, Biology, Chemistry, Psychology, Drugs, Surgery, Firearms, Insertion, Unarm, Alert, Survival, Drugs

Navy:

A member of the water-based armed services.
Prerequisite: Military Academy or Officer Candidate School or END 9 or more, STR 9 or more
Waiver: 05%
Yr. Income: $6k start $6k jump
Skills available: Goad, Engrace, React, Adapt+2, Operate+2, Overdo, Electronics, Mechanics, Gunnery, Course, Demolition, Pilot, Melee, Unarm, Blade, Firearm, Strategy, Tactics, Astronomy, Computers

Ranger:

A military person trained in intrusion and disruption tactics.
Prerequisite: Military Academy or Officer Candidate School or END 9 or more, STR 9 or more
Waiver: 05%
Yr. Income: $3k start $6k jump
Skills available: Goad, Engrace, React+2, Adapt+2, Operate, Overdo+2, Electronics, Mechanics, Demolition, Tracking, Insertion, Snare, Cryptography, Survival, Dash, Melee, Bow, Blade, Firearm, Unarm, Computer

Rocket Corps - Antiterrorist

A military person specially trained in anti-terrorist techniques.
Prerequisite: IQ 120+, Linguistics, CHAR 9+
Waiver:10%
Yr. Income: $6k start $6k jump
Skills available: Convince, Goad+2, Entice, Adapt, React, Overdo, Operate+2, Discipline, Firearms, Tactics, Strategy, Leadership, Focus, Melee, Unarm, Gunnery, Intimidate, Disguise, Pick, Sneaking, Crypt, Psychology, Linguistics, Law, Sociology, Stash, Streetwise

Rocket Corps - Line:

A member of the space-based armed services.
Prerequisite: Military Academy or Officer Candidate School or END 9 or more, STR 9 or more
Waiver: 05%
Yr. Income: $6k start $9k jump
Skills available: Goad, Engrace, React, Adapt, Operate+2, Overdo+2, Electronics, Mechanics, Demolition, Course, Pilot, Melee, Unarm, Blade, Firearm, Gyrojet, Tactics, Astronomy, Gunnery, Computers

Rocket Corps - Scout and Survey:

A member of the elite planetary discovery, mapping, and evaluation teams.
Prerequisite: Military Academy or Officer Candidate School or END 11 or more, IQ 110 or more
Waiver: 05%
Yr. Income: $6k start $9k jump
Skills available: Goad, Engrace, React, Adapt+2, Operate+2, Overdo, Pilot, Electronics, Mechanics, Planetology, Pilot, Unarm, Biology, Firearm, Biology, Atomic, Gyrojet, Survival, Astronomy, Mineralogy, Course, Computers

SEAL

An elite military person trained in multiple methods of insertion.
Prerequisite: END 11+, IQ 120+, AGY 9+
Waiver:0%
Yr. Income: $9k start $9k jump
Skills available: Goad, Adapt+2, React+2, Overdo+2, Operate, Discipline, Firearms, Tactics, Strategy, Leadership, Focus, Melee, Unarm, Gunnery, Insertion, Demolitions, Crypt, Electronics, Sneaking, Course, Intimidate, Linguistics, Organize, Psychology, Snare, Dash, Gyrojet, STR, END, AGY, COOR

Spy:

A member of an intelligence organization, such as the CIA or NSA.
Prerequisite: Any College, IQ 110 or more
Waiver: 05%
Yr. Income: $9k start $9k jump
Skills available: Goad+2, Entice+2, Convince+2, Endear+2, React, Adapt, Operate, Overdo, Driving, Demolition, Streetwise, Sleight, Disguise, Psychology, Unarm, Firearms, Linguistics, Blade, Gymnastics, Sneak, Alert, Pick, Cryptography, Computers

Creating New Character Employments

You are encouraged to create your own employments for characters. The employments listed in this book should give you a good idea of what an employment requires in general, and this section will detail the creation of a new employment for you to use as an example. For this example, we will create the employment of "Attache". An attache is a low level diplomat attached (hence the name) to a consulate or embassy as a specialist - for example a military attache or a cultural attache.

Available Skills:

The first step in turning this general job description into an employment is to isolate the skills the job will use. An Attache would use:
1: **Business**, because a lot of the subject matter of international negotiation is trade,
2: **Convince**, because it is always useful to convince to your point of view,
3: **Cryptography**, because information flow between an embassy or consulate and the home nation is always encrypted,
4: **Disguise**, because sometimes you need to get out without being noticed,
5: **History**, because what happened in a border raid 350 years ago affects how your government is viewed.
6: **Linguistics**, because you must communicate directly with the locals, and more importantly to know what they are saying to each other,
7: **Law**, because you must have knowledge of the local laws, and particularly International Law,
8: **Negotiate**, because this is the prime skill of any diplomat,
9: **Psychology**, because it is useful to know how your opponent thinks,
10: **Research**, because in most cases the information you need is never sitting at your fingertips waiting for you to call,
11: **Sociology**, because nations are composed of societies and cultures.
That is a good range of skills, making this an attractive package.

Skill Tables:

Next, you will need to establish the skill tables for those who use random skill determination. As a rule of thumb, if there are 9 skills or less available to an employment, you should use 2 skill table rows. If there are 10 or more, you should use three. This Employment has 11 skills available, so we will use 3 skill table rows. We will choose negotiate, research, and linguistics as our most important skills and base our skill tables around them.
We can look through the skill tables for other Employments to see if there is anything suitable, but there isn't. We will make up the 3 rows ourselves.
The first row will be based on research, so we will pull in the allied skills of history and sociology, giving us something like: research, history, research, sociology, history, and sociology.
The next row will be based on negotiate, so we will pull in the allied skills of business, linguistics, and convince. The most important of these are negotiate and business, so we will use them twice. This gives us something like business, law, negotiate, convince, business, and negotiate.
This leaves the skills linguistics, cryptography, disguise, and psychology for our third table row. The most important of these are linguistics and cryptography, so we will use those twice. This gives us something like linguistics, disguise, cryptography, linguistics, psychology, and cryptography. Our skill tables are done.

Employment Prerequisites and Waiver Roll:

Now we need to set up the prerequisites for a person to get the job of attache. In this, you should think of it as a job listing in a newspaper - something like "Applicant needs a BS in chemistry and a working knowledge of mechanical distribution systems" or something to that effect. For an Attache, employers would look for an excellent education in the humanities, charisma, and an expertise with a skill. Since it is intended as a position open to the relatively inexperienced, we would make the requirements lower than we would for a Consul or an Ambassador. Let's say we would like someone from an exclusive college and good charisma, or a person with an expertise in a skill and good charisma. This gives us for Prerequisites: CHAR 8+ and any skill+3 or CHAR 8+ and Exclusive College, mainly because it sounds about right.
The Waiver Roll lets us state how stringent our requirements are. In an employment ad, this would be "experience

required" vs. "experience preferred" vs. "no experience necessary". A low stringency threshold would be something like 40-25%, a middling one between that and 15%, and a high threshold higher than 15%. In a job like an attache, you don't want to wade through every factory worker and former farmer trying to better their lot, but on the other hand, you don't want to close out a kid with real potential either. A Waiver Roll of 15% - high, but not too high - seems about right.

Pay Scale:

In setting a pay scale, you have a few things to consider. You don't want to set the scale too low, or people will not want to waste their time with the job. On the other hand, if the pay scale is too high, you risk going over established jobs in the same vein which should be compensated at a higher rate. In other words, you want the Attache to be better compensated than the security guard at the gate, but less than the Ambassador the attache is going to be working under. A pay scale is also composed of two parts, an initial pay and a jump amount. The initial pay reflects the relative difficulty of the job, while the jump amount reflects the risk vs. reward structure. A career like Merchant would have a low initial pay and a high jump amount, to reflect the nature of that career. An Attache would have a fairly high requirement going in - the education and experience required does not come cheap - so the initial pay should be set fairly high, at about 10k. The risk is low, as it is in any civil service career, so we should set the jump amount low, at $10k.
Thus we have our new Employment:

Attache

An expert attached to a diplomatic team.
Prerequisites: CHAR 8+, any skill+3 or CHAR 8+, Exclusive College
Waiver Roll: 15%
Pay Scale: $6k start $6k jump
Skills Available: Convince+2, Goad, Entice, Endear+2, Engrace, Adapt+2, Overdo+2, Research, History, Sociology, History, Sociology, Business, Law, Negotiate, Convince, Linguistics, Disguise, Cryptography, Psychology, Computers

Guide to Skills

Skills

All skills work at a base chance of success of 45% at level+1, and 5% is added per level of skill. Each skill has a characteristic which modifies it's chance of success - either a physical characteristic such as strength, coordination, agility, endurance, or CHAR - or IQ. Physical stats modify the chance of success at a rate of 5% for every 2 points over 7 - i.e. at 9, 11, 13, etc. IQ modifies by 1 per point of IQ over 120 - i.e. at an IQ of 137, the modifier would be +17.

Skills may be used at +0 - no skill - by rolling the modifying stat or lower on percentile die unless the modifying stat is IQ, which receives a 10% chance. Example: Climb+0. Modifying stat is Agility. Character has an Agility of 11 so the character can climb with a roll of 11 or less on percentile dice. Example: Biology+0. Modifying stat is IQ. Character has a flat 10% chance of success. High modifying stats give no other additional bonuses to success.

When to use skills

Skills should only be rolled if a normally competent individual would have trouble. For example, climbing a ladder would not require a climb skill check, whereas climbing a mountain may. Riding a horse would not normally require a riding check, while shooting from horseback would. If the GM keeps in mind the 'Normally Competent Individual' concept, the number of rolls, and thus the number of player failures, will be kept to a meaningful minimum.

FTL Now - Skills

Skill	Description	Governing Attribute
Adapt	*To change to accommodate new and unfamiliar circumstances, use unfamiliar materials, learn new methods, etc.*	CHAR
Alert	*The ability to stay alert without sleep*	END
Analyze	*The ability to discover underlying forces and properties at work*	IQ
Astronomy	*The ability to use instruments to find matter and energy in space*	IQ
Atomic	*The ability to build, repair, and operate space drives and reactors*	IQ
Biology	*The study of plants and animals and their effects on mankind*	IQ
Blade	*The ability to effectively use cutting weapons in combat*	STR
Bow	*The ability to effectively use bow weapons in combat*	COOR
Brawl	*Fighting without weapons in an undisciplined manner. Damage equals percentile dice plus 1 per level of skill, plus 5 for every 2 points of strength above 7. For example a character with brawl+4 and STR 11 would have a damage of 4+10 or %d+14*	STR
Business	*The ability to bargain, buy, sell inventory, bribe, and otherwise use money effectively*	CHAR
Carpentry	*The ability to shape wood into useful tools and furniture*	COOR
Chemistry	*The study of the molecular interaction of elemental components*	IQ
Climbing	*The ability to climb walls, cliffs, and trees*	AGY
Construct	*The ability to build structures from available components*	END
Cook	*The ability to cook nutritious and palatable meals*	IQ
Computer	*The ability to use calculating machines and slide rules effectively*	IQ
Convince	*The ability to persuade others to a course of action*	CHAR
Course	*The ability to navigate a course*	IQ

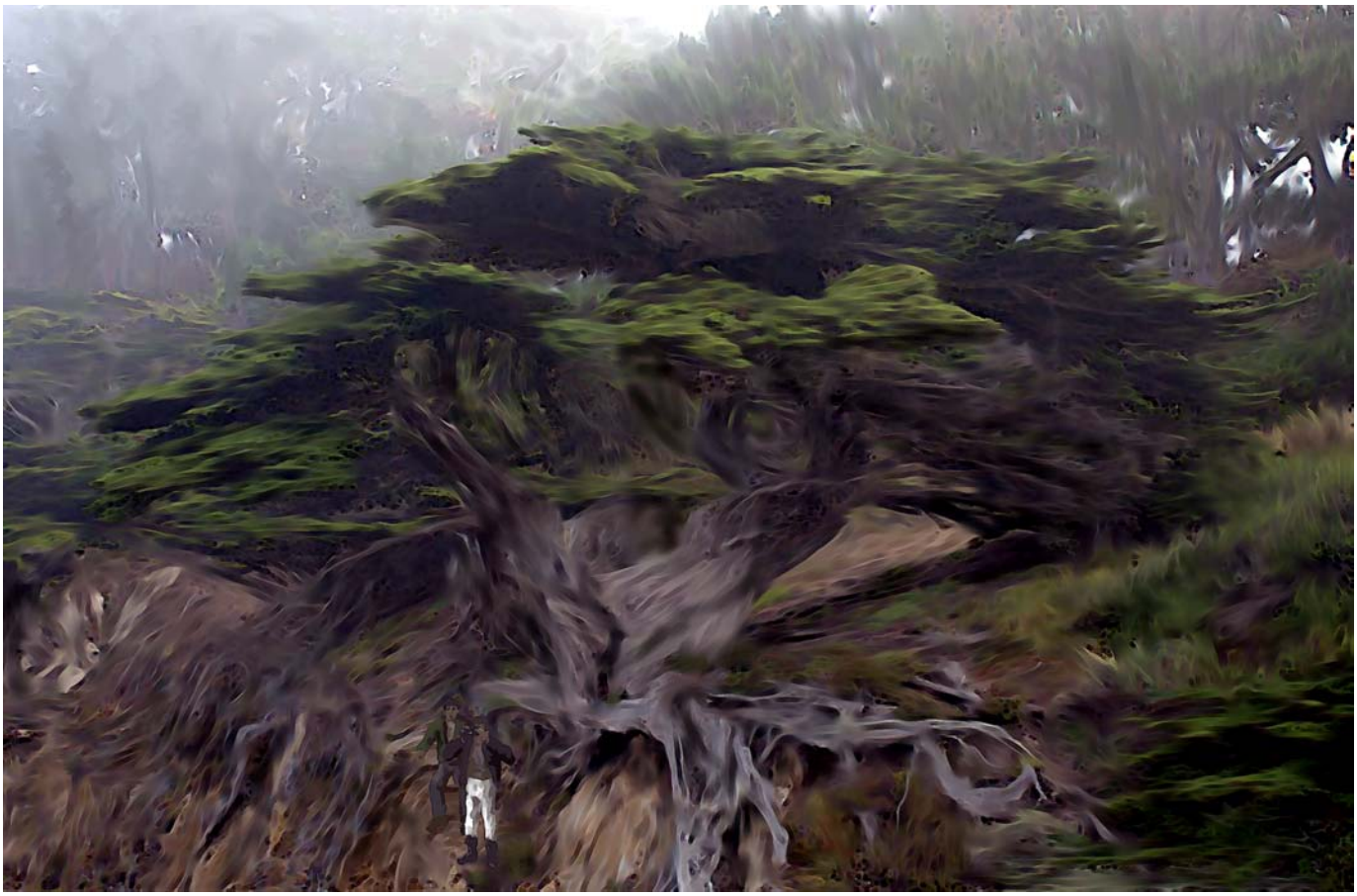
Skill	Description	Governing Attribute
Crypt	*The ability to encrypt and decrypt data, and the ability to create new types of encryption*	IQ
Dash	*Daring and movement which sweeps all before it. A success means the character has performed a marvellous feat and opponents attempting to hit the dashing character have a -5 per level of dash to hit.*	AGY
Demolition	*The ability to use explosives effectively*	IQ
Diagnosis	*The ability to identify an injury or disease*	IQ
Disguise	*The ability to change the outward appearance of some person or thing using makeup and prosthetics*	CHAR
Drinking	*The ability to consume large quantities of alcoholic beverages*	END
Driving	*The ability to drive any planetbound craft*	COOR
Drug	*The ability to use and make drugs to cause and cure injury, illness, or sensory abnormalities*	IQ
Electronics	*The ability to make or repair electrical and electronic devices*	IQ
Endear	*To make yourself liked by charm or flattery used on a target*	CHAR
Engrace	*To fill one's movements with grace and eloquence*	CHAR
Entice	*To lure or bait someone or something with hints of pleasurable reward*	CHAR
Evaluate	*The ability to quickly assess the value of something*	CHAR
Firearms	*The ability to effectively aim recoil-inducing high-speed projectile weapons*	COOR
Focus	*The ability to concentrate on one thing despite distractions*	CHAR
Forgery	*The ability to convincingly create documents which appear official*	COOR
Goad	*To force people into action by annoying and pestering them, without controlling which action the recipient of the goading will take*	CHAR

Skill	Description	Governing Attribute
Gunnery	*The ability to effectively use cannon and missiles*	COOR
Gym	*The ability to make leaps, somersaults and other gymnastic moves*	AGY
Gyrojet	*The ability to effectively use self-propelled weapons in combat*	COOR
Herbalism	*The ability to use plants and extracts to heal or harm*	IQ
History	*Knowledge of history*	IQ
Husbandry	*The ability to care for plants animals effectively*	END
Insertion	*Knowledge of techniques for placing oneself and others behind enemy lines*	IQ
Instruct	*The ability to effectively pass on knowledge to others*	CHAR
Intimidate	*The ability to bluff and deceive others as to one's true strength*	*CHAR*
Linguistics	*The ability to speak & comprehend languages from basic principles*	IQ
Law	*The ability to use, circumvent, and deal with law, and project an entire system from a few examples*	IQ
Leadership	*The ability to take command of others by making them want to follow*	CHAR
Martial Arts	*The ability to fight without weapons* *Dam = +5 per 2 points of STR, COOR, and/or AGY above 7 and +5 per level of Martial Arts Skill. Example, Martial Arts with STR 9, COOR 11, AGY 10 and Martial Arts+4 does %d+40 damage*	STR
Mathematics	*The study of numeric combination and relation*	IQ
Mechanics	*The ability to use, maintain, and repair mechanical devices and equipment*	COOR
Meditation	*The use of breathing and posture rituals to keep the mind & body clear*	CHAR
Melee	*The ability to efficiently use non-blade hand held weapons in combat*	STR

Skill	Description	Governing Attribute
Mineralogy	*The study of minerals*	IQ
Music	*The ability to express oneself in the medium of sound*	CHAR
Negotiate	*The ability to sway another to your point of view*	CHAR
Operate	*The ability to use common machinery appropriate to the culture*	IQ
Observe	*The ability to discern important facts by watching a system in action*	END
Organize	*The ability to bring separate actions together into a smoothly operating whole*	CHAR
Overdo	*The ability to push oneself past one's usual limits of fatigue or injury One can stay functional after reaching Stunned level, orate for hours in a filibuster, ignore sleep to study, etc.*	END
Painting	*The ability to effectively express oneself using paint.*	COOR
Pick	*The ability to open locked doors using simple metal tools*	COOR
Pilot	*The ability to operate a space faring craft at sub-light speeds If no pilot skill, use small craft/2*	COOR
Planetology	*The study of planetary ecologies*	IQ
Physics	*The study of the fundamental rules governing the Universe*	IQ
Psychology	*The ability to understand the hidden drives behind a person's actions*	CHAR
React	*To move quickly without thinking to avoid an avoidable danger - for example jerking away before a sniping attempt. Reacting to bullets or other extremely fast missiles entails a -40 to chance of success.*	AGY
Repair	*The ability to fix things which are broke*n	COOR
Research	*The ability to find out information on a given subject using libraries and other databases.*	END
Riding	*The ability to ride an animal or open seated vehicle in complex maneuvers*	AGY
Rope	*The ability to efficiently use ropes and knots*	COOR

Skill	Description	Governing Attribute
Sculpture	*The ability to express oneself in creating 3 dimensional objects*	COOR
Sell	*The ability to convince others that they need what you have*	CHAR
Shipbuilding	*The ability to construct a waterborne ship*	IQ
Sleight	*The ability to use sleight-of-hand tricks*	COOR
Sociology	*The study of societies, peoples, and cultures*	IQ
Smithing	*The ability to shape metal using heat and hammering*	STR
Snare	*The ability to create, set, and disable traps*	COOR
Sneaking	*The ability to move quietly and unseen*	AGY
Stash	*The ability to hide things in nooks and crannies or in plain sight*	IQ
Steer	*The ability to direct large vehicles in the direction desired.*	COOR
Strategy	*The ability to dispose forces and plan long range*	IQ
Streetwise	*The ability to find connections, rumors, and general urban survival*	CHAR
Surgery	*The ability to cure wounds and other physical ailments by operating*	COOR
Survival	*The ability to effectively live off the land*	END
Taste	*The ability to discern quality in an item, creature, or person.*	CHAR
Tactics	*The ability to use personnel and resources on hand to best effect.*	IQ
Treatment	*The ability to cure diseases and wounds without surgery*	IQ
Tracking	*The ability to follow a creature or object by noticing signs of its passage*	AGY

Skill	Description	Governing Attribute
Unarm	*Unarmed fighting technique taught only by the Military. Damage equals percentile dice plus 3 per level of skill, plus 5 for every 2 points of strength and coordination above 7. For example a character with unarm+4 and STR 9, COOR 11, would have a damage of 12+5+10 or %d+27*	STR
Weather	*The ability to predict weather patterns*	IQ
Writing	*The ability to express oneself in written words*	CHAR
Zero-G	*The ability to perform difficult physical acts and maneuver in zero gravity.*	AGY



Tuesday, December 31st, 1991

"Thank you for tuning in, this is Robert Mercer reporting for an NBC Nightly News special," he said to the camera. His breath came out in thick clouds of steam, and snowflakes melted against his cheeks as he spoke, each one like a cold needle piercing his skin. He pulled his fur hat down over his ears a little bit more. The body warmth of the crowd didn't help much against the cold, but all of them seemed used to it, unlike Robert. "It's two minutes to midnight here in Moscow on New-year's Eve, 1991, and I have to wonder if this place could be any more different than the last time I saw it. The atmosphere is electric, there's a lot of anticipation in the air. People are waiting for a new image to rally behind."

For the benefit of the viewers, he turned to glance behind him, where the distinctive domes of St. Basil's Cathedral shone with reflected light. Spots had been rigged all around the Red Square. Most of them centred on the crimson red flag snapping in the wind, still there after all these years, still flying that old hammer and sickle.

Robert went on, "Only one symbol remains of the great empire that, until last year, kept the entire Western world constantly on its toes. The flag of the Union of Soviet Socialist Republics. But now that Union is no more. Its republics have broken away, its colonies have gained their independence, and its citizens now taste their long-awaited freedom.

"The fall of the Berlin Wall seemed like a milestone when it happened, the beginning of a brave new world -- but while this day will go down in history with less fanfare, it should be considered every bit as important. On Christmas day last week, General Secretary Mikhail Gorbachev resigned his post as president of the Soviet Union. Today, on the 31st of December, all official Soviet institutions have ceased to function as individual republics assumed control of their own territories. Today, on the 31st of December, the once-mighty USSR has been officially disbanded and replaced by CISCO, the Commonwealth of Independent States and Colonies. Today, on the 31st of December, the 'Victory Banner' is lowered for the last time over the Kremlin."

Slowly, solemnly, the patch of crimson cloth descended its pole and disappeared into the mass of palaces. There was no sound from the gathered thousands watching below. Seconds ticked away. Finally, a new flag rose into the sky, the simply hopeful colors of the Russian Federation. Nothing Soviet remained in the great Red Square -- except the squat stone pyramid of Lenin's mausoleum.

Just as the flag reached its top, bells across the city began to strike midnight, and the crowd erupted.

"Death and rebirth form a prominent part in the cycle of life; so, too, for nations. But can a new, democratic Russia rise like a phoenix from the ashes of the Soviet Union, or are they doomed to repeat history's mistakes? Well, that's for history to decide. What I do know is this. For the first time since 1917, the colors of old Russia fly above these streets, and they are colors that any American should be able to appreciate -- red, white, and blue." He smiled. "And now, while I still have your attention, I would like to wish you all a very happy 1992. This will likely be my last report to you from the cradle of Earth, as I have now been promoted to official extraterrestrial correspondent for a new show called Dateline NBC. I hope to see you all soon from Luna, Mars, or anywhere else in this great and glorious galaxy. Until then, I'm Robert Mercer, signing off. Thank you."

"That's a wrap, Rob," said the cameraman as he switched off. "Nice work. They're gonna eat that stuff up back home."

Robert grimaced. "Right now I don't really give a damn, as long as I get to go somewhere inside to thaw out my balls." He rolled up the microphone wire with stiff fingers and threw it into the back of their contragrav newsvan. "Vinnie, why the hell don't you look cold?"

Vinnie half-snorted. "Cold? I'm from Chicago, this isn't cold."

"Great. Then you drive." Robert smiled and dove into the passenger seat, leaving Vinnie to pack up the rest of the equipment while he warmed his hands by the air vents. "Sucker!"

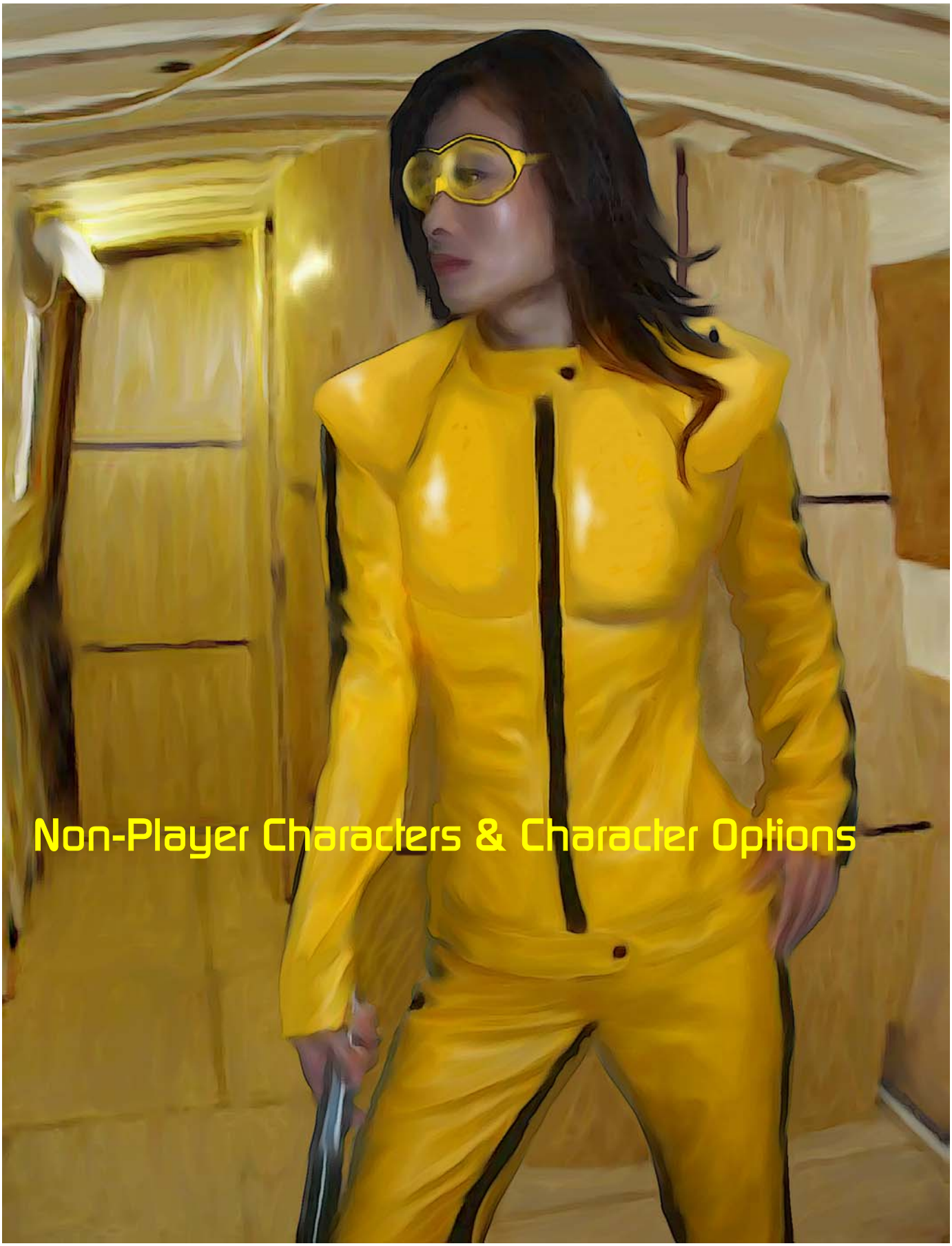
It was almost disappointing when Vinnie calmly climbed in and shifted into first gear, not even a little bit pissed off. He took off the handbrake and moved the throttle forward, laughed as the van lurched off the ground. It rose higher and higher into the air on invisible strings, boldly defying the laws of gravity.

"I never get tired of that," he said. They'd only had the new van for three months. Concepts like 'roads' and 'traffic congestion' were fast becoming a distant memory. "So, you're really going up for good, huh? Offworld?"

"Yep. Who knows, I hear Roosevelt is pretty nice this time of year, I may never come back." He rubbed his woollen gloves together. "Well, it gets me away from the ex." And a few other things, he added in the privacy of his own mind.

"There is that," Vinnie admitted, and gently toed the accelerator. "I usually don't pick up hitchhikers, but I can get you as far as the moon."

"That'll be fine, pal," said Robert. "The moon will be just fine."



Non-Player Characters & Character Options

Non-Player Characters

Non-Player Characters are all the other people in your game setting, besides the Players' characters. They are the farmers whose land the player characters cross. They are the lawyers whose advice the Player Characters seek. They are the mothers and fathers, sisters and brothers, and long lost cousins who show up on the doorstep needing a place to stay. All of them are created by the Game Master to propel the game along and populate the setting.

Chance Met NPCs

There are various levels of reality which go into making up Non-Player Characters (**NPCs**). Some NPCs are chance met on the road or bumped into at the bar. For example, here is an encounter with a chance met NPC in the Pampas Charter Colony:

[Game Master (GM)] Will goes down in front of the charging herd of pikagudos. Emalee and Esteban, the guide, make it to the side just in time.

[Larry] Ouch! This is gonna hurt!

[GM] (Rolls) Ugh! That's six hits for (Rolls) an average damage of 55 - that's 330 points.

[Larry] Crap! Will's out for the count! Seriously Wounded! Wow!

[Paula] I know! Emmalee uses her luck! The guide - what's his name? Esteban! He was a medic in the military! He can help!

[GM] Ummm, OK... he was a medic, huh? Just give me a second here. That's a twist...

The Instant Character

The Game Master needs to very quickly roll up a character. He knows Will's really bad off, and the accident has put a crimp in his plans. Will will heal a lot faster with a medic's care. What he needs is an **Instant Character,** just a couple of skill levels and a basic sketch of a personality. He didn't anticipate this particular interaction. He rolled twice on the following table - **Relevant Skill Level Table** - once for Surgery and once for Drugs, getting a +1 and a +3. He decided to change that to a Surgery+3. Then he rolled on the table after that - **Quick Stats Table**- but he didn't like the roll, a 05, so he chose a COOR of 12. Finally he rolled on the last table - **Quick and Dirty Personalities Table**- and got a 29 - Honorable. He liked the result and kept it.

Of course, other NPCs are not just met once and then discarded. Some are coworkers or professionals who interact frequently with the player characters, and some are folk who hire their services, such as guards, or perhaps students who follow the characters around to learn from them. If the characters meet up with or travel with these NPCs frequently, the Game Master will want a bit more detail in the NPC.

The Temporary NPC

For instance, the Game Master had initially decided that Esteban was just window dressing for the little hunting trip, but when Larry went down, the Game Master realized he had a cool opportunity. He decided right then to make the guide a focus of the campaign. After the field operation, in which Esteban performed creditably, the Game Master began shaping the newly important guide.

The Guide was now to be a medic, and the Game Master decided to make him be a Ranger as well. He needed a hook for the new NPC, so he rolled on the **NPC Missions Table**. There he rolled that Esteban was on a *Secret Political Mission*. Further amplifying his NPC's background, he chose *A Particular Item of Great Political Value* from the **Object of Mission Table.** He decides that Esteban is am operative for the Pampas Colonial Government, who is using the PCs as cover for his mission - to steal a videotape the PCs are innocently carrying.

The Game Master decides to give *Esteban Immelman* 3 more relevant skills and 10 incidental skills. He rolls 3 more times on the Relevant Skill Table and 10 times on the **Incidental Skill** table. The relevant skills in this case are important skills a Ranger would have, and the incidental skills are minor skills which the Game Master decides should include climbing, riding, linguistics, and such other useful skills. He adds up all of Esteban's skill levels and subtracts one out of every 7 skills. Rounding to the nearest whole number results in Esteban's approximate age.

Deciding how many skills to award an NPC is a delicate thing, and should be left to the discretion of the GM. We offer the following as guidelines:

- Unless a character is very old, she will not have a lot of very high level skills. Remember the trade-off between many skills and depth in those skills. Typical characters will have mastery (skill+5) in at most one skill by the age of 25, and perhaps three or four by age 45. Double mastery (skill+10) is rare, and triple mastery (skill+15)is truly exceptional. Double and triple mastery are indications that the character has neglected breadth of knowledge for the sake of depth of knowledge.
- Giving a character very many skills, many skill masteries, or both means the character will be old. Remember to decrease the character's physical attributes appropriately to reflect the character's aging.
- All these tables are there for your convenience as GM. Think of randomly rolling such things as spur to your imagination. If you decide to just pick something interesting instead of rolling, go for it! If you do roll randomly, ignore any result that is inconsistent with the setting or anything previously established about the character.

The listings are very vague. They should be used as spurs for your creativity. For instance, the result of "Fleeing Persecution" in the **NPC Missions** table implies that there is persecution to be fled from, that someone/some organization is persecuting people, and that this someone has a reason for this persecution, good or bad. Fitting this into your game setting may be impossible, in which case toss out the result and select something different. On the other hand, this could be a hook deeper into something interesting that you hadn't thought about. Is the persecution public? Is it deadly? Are the persecutors likely to come here looking to enforce the persecution? What about the PCs? What will their reaction be? A lot can be built on a vague little two word table result.

The last table the Game Master uses is the **NPC Relative Wealth** table. This gives an indication of the NPC's possessions. The Game Master selects a moderately wealthy result. This is to reflect the age and skill set the guide would have. With this the character is ready to play long term.

NPC Missions Table

Roll or choose	NPC Mission
01-05	Open Religious Rite or Ceremony
06-10	Secret Religious Rite or Ceremony
11-15	Victim of Vast Political Conspiracy
16-20	Delusions of Vast Political Conspiracy
21-25	Trade Mission
26-30	Spying
31-35	Searching
36-40	Open Political Mission
41-45	Secret Political Mission
46-50	Tourist
51-55	Member of Political Cabal
56-60	Delusions of Membership in Political Cabal
61-65	On Way to Somewhere Else
66-70	Fleeing Persecution
71-75	Fleeing Law
76-80	Theft or Criminal Activity
81-85	Compelled Against Will
86-90	Madness
91-95	Prophecy
96-00	Love

Object of Mission Table

Roll or Choose	Mission Object
01-05	A Particular Player Character
06-10	A Particular Political Figure
11-15	A Particular Religious Figure
16-20	A Particular Relic or Religious Artifact
21-25	A Particular Weapon
26-30	A Particular Person of Opposite Sex
31-35	A Particular Person of Same Sex
36-40	Political Information
41-45	The Player Character Party
46-50	A Particular Symbolic Item
51-55	A Particular Item of Great Monetary Value
56-60	A Particular Item of Great Political Value
61-65	A Particular Technological Item
66-70	A Particular Animal
71-75	A Particular Plant
76-80	A Particular Mineral
81-85	Military Information
86-90	A Particular Piece of Property
91-95	A Particular Item of Great Religious Value
96-00	Information on a Process

Incidental Skill Table

Roll or Choose	Skill Plus
01-45	1
46-85	2
86-93	3
94-97	4
98-99	5
00	6

Incidental Skills are skills which the character has learned, but which have not proven vital in the character's life's work. For instance, Ride skill for a Diplomat is not vital to the Diplomat's performance of duty, although it may be very useful.

Quick and Dirty Personalities Table

Roll or Choose	Personality Hook
01-03	Whimsical
04-06	Brooding
07-09	Pondering
10-12	Joking
13-15	Teasing
16-18	Flighty
19-21	Monomaniacal
22-24	Laid Back
25-27	Focused
28-30	Honorable
31-33	Scheming
34-36	Byzantine
37-39	Straight Arrow
40-42	Patient
43-45	Sneaky
46-48	Despondent
49-51	Sloppy
52-54	Haughty
55-57	Tricky
58-60	Earnest
61-63	Bashful
64-66	Humble
67-69	Angry
70-72	Bitter
73-75	Paranoid
76-78	Watchful
79-81	Planner
82-84	Improvisor
85-87	Whacky
88-90	Reserved
91-93	Brash
94-96	Whining
97-99	Languid
00	Roll twice

NPC Relative Wealth Table

%d roll	Possessions
01-15	Poor Clothing and Poor Weapon
16-30	Poor Clothing, Poor Weapons, and Poor Mount/vehicle/property
31-40	Decent Clothing and Poor Weapons
41-50	Decent Clothing and Decent Weapons
51-55	Decent Clothing, Decent Weapons, and Decent Mount/vehicle/property
56-60	Good Clothing, Decent Weapons, and Decent Mount/vehicle/property
61-65	Good Clothing, Good Weapons, and Decent Mount/vehicle/property
66-70	Good Clothing, Good Weapons, and Good Mount/vehicle/property
71-73	Excellent Clothing and Decent Weapons
74-76	Excellent Clothing and Good Weapons
77-79	Excellent Clothing, Good Weapons, and Good Mount/vehicle/property
80-82	Excellent Clothing, Excellent Weapons, and Good Mount/vehicle/property
83-85	Excellent Clothing, Excellent Weapons, and Excellent Mount/vehicle/property
86-88	Superb Clothing and Good Weapons
89-90	Superb Clothing and Excellent Weapons
91-92	Superb Clothing, Good Weapons, and Good Mount/vehicle/property
93-94	Superb Clothing, Excellent Weapons, and Good Mount/vehicle/property
95-96	Superb Clothing, Excellent Weapons, and Excellent Mount/vehicle/property
97	Superb Clothing, Superb Weapons, and Good Mount/vehicle/property
98	Superb Clothing, Superb Weapons, and Excellent Mount/vehicle/property
99	Superb Clothing, Excellent Weapons, and Superb Mount/vehicle/property
00	Superb Clothing, Superb Weapons, and Superb Mount/vehicle/property

NPC Relevant Skills Table

Relevant Skill Level Table	
Roll or Choose	**Add a +1 if the NPC is a professional**
%d roll	**Skill Level**
01-10	0
11-35	1
36-60	2
61-84	3
85-98	4
99	5
0	6

Quick Stats Table	
Roll or Choose	
%d roll	**Statistic**
01-02	1
03-05	2
06-10	3
11-18	4
19-28	5
29-39	6
40-50	7
51-60	8
61-64	9
65-69	10
70-74	11
75-80	12
81-84	13
85-88	14
89-92	15
93-94	16
95-96	17
97-98	18
99-00	19

Mooks and Gunmen

Sometimes you want less complex characters, ones you can drop in most anywhere to provide opposition to the Player Characters without a lot of social interaction. In other words, sometimes you just want someone to shoot and be shot at. The following characters are generic gunmen, able to be dropped into most any situation with only slight customization. The generic characters are graded from easiest to most difficult to allow you the most flexibility. Throughout this section, the term "weapon skill" is used in place of the actual weapon skill relevant to the situation. Replace this term with the skill appropriate to the scenario and go. The stat for "Unarmed Combat Damage" assumes that Unarmed Combat skill is equivalent to Weapon Skill.

Mook:

STR:8	COOR:8	AGY:8	END:8	Full Constitution:	320
Weapon Skill+2	Armor: Ballistic or Skin			Hindered Level:	240
Other Relevant Skills: None				Unconscious Level:	160
Unarmed Combat Damage: +10		To Hit:50%		Ser. Wounded Level:	80

Thug:

STR:8	COOR:8	AGY:8	END:8	Full Constitution:	320
Weapon Skill+3	Armor: Ballistic or Skin			Hindered Level:	240
Other Relevant Skills: None				Unconscious Level:	160
Unarmed Combat Damage: +15		To Hit:55%		Ser. Wounded Level:	80

Cop:

STR:8	COOR:8	AGY:8	END:8	Full Constitution:	320
Weapon Skill+4	Armor: Ballistic or Skin			Hindered Level:	240
Other Relevant Skills: Sneak+1				Unconscious Level:	160
Unarmed Combat Damage: +20		To Hit:60%		Ser. Wounded Level:	80

Gunman:

STR:9	COOR:9	AGY:9	END:9	Full Constitution:	360
Weapon Skill:+3	Armor: Ballistic or Skin			Hindered Level:	270
Other Relevant Skills:	Sneak+1, React+1			Unconscious Level:	180
Unarmed Combat Damage: +20		To Hit:60%		Ser. Wounded Level:	90

Army:

STR:9	COOR:9	AGY:9	END:9	Full Constitution:	360
Weapon Skill:+4	Armor: Ballistic			Hindered Level:	270
Other Relevant Skills: Tactics+2				Unconscious Level:	180
Unarmed Combat Damage:+25		To Hit: 65%		Ser. Wounded Level:	90

Master:

STR:10	COOR:10	AGY:10	END:10	Full Constitution:	400
Weapon Skill:+5	Armor: Any			Hindered Level:	300
Other Relevant Skills: Dash+2, React+2				Unconscious Level:	200
Unarmed Combat Damage:+30		To Hit: 70%		Ser. Wounded Level:	100

Bodyguard:

STR:10	COOR:10	AGY:10	END:10	Full Constitution:	400
Weapon Skill:+5	Armor: Ballistic			Hindered Level:	300
Other Relevant Skills: Observe+3, React+3				Unconscious Level:	200
Unarmed Combat Damage: +30	To Hit:70%			Ser. Wounded Level:	100

Marine:

STR:10	COOR:10	AGY:10	END:10	Full Constitution:	400
Weapon Skill:+6	Armor: Ballistic			Hindered Level:	300
Other Relevant Skills: Dash+2, Observe+2, React+2				Unconscious Level:	200
Unarmed Combat Damage: +35	To Hit: 75%			Ser. Wounded Level:	100

Ranger:

STR:10	COOR:10	AGY:10	END:10	Full Constitution:	400
Weapon Skill:+6	Armor: Ballistic			Hindered Level:	300
Other Relevant Skills:	Survival+2, React+2, Dash+2			Unconscious Level:	200
Unarmed Combat Damage: +55	To Hit:75%			Ser. Wounded Level:	100

Special Forces:

STR:11	COOR:11	AGY:11	END:11	Full Constitution:	440
Weapon Skill:+7	Armor: Ballistic			Hindered Level:	330
Other Relevant Skills: Tactics+3, Demolitions+3, gunnery+3				Unconscious Level:	220
Unarmed Combat Damage: +45	To Hit:85%			Ser. Wounded Level:	110

Double Master:

STR:13	COOR:13	AGY:13	END:13	Full Constitution:	520
Weapon Skill:+10	Armor: Any			Hindered Level:	390
Other Relevant Skills: React+5, Observe+5				Unconscious Level:	260
Unarmed Combat Damage: +65	To Hit:105%			Ser. Wounded Level:	130

Note: The names are for illustrative purposes.

The Permanent NPC

For NPCs which require more than this, the NPC should be created exactly as if the character were a player character. This will always give the best and most realistic results. Any character which needs to be that realistic should go through the complete process.

One way to speed things up, and this can be done for a PC as well, is to take employment in blocks. In a ten year block, an average result would be 2 promotions, so a less than average character would have 1 promotion, a good character would have 3 promotions, and a very good character would have 4 promotions. Halve that for 5 year blocks - thus zero for a below average character, one for an average character, and 2 for a very good character. Physical Deterioration should be assigned. This should drastically speed character creation up.

Wednesday, June 22nd, 1994

"Sure looks different when you're peering out through a porthole, huh?" whispered Robert. It was a humbling experience to stand here, staring into the black vastness of creation. The sun looked so much larger from outside thes atmosphere. He felt like he could just push off and let himself fall into that glorious, molten-gold fireball, to drown himself in heavenly fire. The tinted visor of his suit protected his eyes, so it wasn't the brightness that had him tearing up.

And on the other side, that white-swirled blue jewel they called Earth.

"Wonderful," said his new camerawoman as she swallowed her rising gorge. Her eyes were glued to her feet, but it didn't help much, on account of her feet not being attached to anything. Once again, she concluded that zero-gee training was not something you should lie about on your resumé. "Can we get this the fuck over with and go back inside?"

The producer cut into the circuit to answer. "Just a minute, we're up next. Patching you in now."

Robert could hear the deep, rolling voice in his earpiece, finishing up an interview about the O.J. Simpson scandal. Finally, finally, he turned back to the camera and said, "And for our Offworld segment, we now turn live to our extraterrestrial correspondent, Robert Mercer. Robert . . ." He paused. "Is that a spacesuit you're wearing?"

"That's right, Stone," Robert replied. "I'm in geosynchronous orbit, about thirty-six thousand kilometres almost directly above you, floating not twenty metres from Solar Power Satellite Hope One -- the flagship of Project Ring. Project Ring is the joint baby of NASA and President Clinton, a massive construction program designed to put no less than fifty solar power satellites in orbit over the United States, able to provide the entire country with cheap, pollution-free, inexhaustible power. Assembly of the prefabricated parts is just getting underway here, scheduled to take four more months."

The camera panned over to the construction area, where spacesuited men and women oversaw the work of several robotic arms, fighting to slot a huge solar panel into an even larger joint on the satellite's body.

"As you can see," Robert continued, "this is a major undertaking, but when completed this satellite alone will be able to project fifteen gigawatts of electricity from sea to shining sea. The sheer boldness of the President's plan has invited endless criticism and paranoia, but it's a dream that has captured the imaginations of these volunteer construction crews. They are here to make the impossible a reality."

"It's very impressive, of course, Robert. Have you managed to speak to any of the Ring builders?"

"Yes, I've had the opportunity to conduct several enlightening interviews with the local specialists. Their genuine passion for the project has been an eye-opening experience. Here are a few of my conversations with them."

The producer quickly switched their broadcast to the prerecorded tape, then said, "Okay, you're clear. Eight minutes to get back inside."

"Yeah, yeah," Sally, the camerawoman, sighed. She worked the tiny joystick in her left hand, and her thruster pack gently propelled her back towards the habitat's airlock. Robert followed at a safe distance.

They waited for the lock to repressurize, then stripped off their suits as fast as they could. After that it was a headlong rush up the rungs, a long hand-over-hand climb -- or descent, depending on how you looked at it -- along the station's axis. Robert clambered after Sally and tried not to notice how the complimentary NASA coveralls hugged her body. Erections didn't play too well on national TV.

"I should've stayed on Earth," she complained. "Gravity. Atmosphere. Real food. Atmosphere. Daylight. Atmosphere. The freedom to go two steps and not bump into the walls of the beer can you're living in. Did I mention atmosphere? I'm a big fan of it."

Robert smiled to himself; he'd long gotten used to Sally's wit. She was a sweetheart, really. He teased, "You call being stuck on that rock your entire life 'freedom'? Live and die without ever seeing what's out here?" He tenderly patted the wall of the tube. "You can go anywhere in the universe from here, if you're patient. Anywhere at all. That's what freedom is."

"You're full of it, Mercer. You and your born-under-a-wandering-star bullshit."

"Ah, you have such a way with words," he chuckled. "Maybe I should let you at the microphone for a while."

"Maybe I should shove this camera up your--" She broke off suddenly. "What's that?"

On the other end of the station, a pair of Marine guards were engaged in a loud disagreement with a group of Arabic men. As far as Robert could tell, the argument was just picking up steam . . . and when the Marines' pistols came out he knew there was something wrong.

A sudden flash of memory hit him like some past self kicking him in the back of the head. Something about those Arabs made the hairs on the back of his neck stand up, and now he knew what. He'd seen their style of clothing before. All the blood drained from his face, and he caught Sally's arm in a death grip.

"Back this way," he hissed, "quickly!"

He hauled her bodily back down the spindle, even while she struggled and yelled at him. A burst of automatic gunfire behind them finally got her to stop kicking and start moving. Shouts in Arabic. More gunshots, semi-automatic. Bullets panged off the walls, sparking where they touched metal.

"Holy fuck!" Sally snapped suddenly. "They're shooting at us!"

"Not us," he panted as they ducked around the corner, out of the lead rain, and hurried on to the vehicle garage. Cold sweat poured down Robert's face. "Me. They've found me."

Sally looked at him with unsure eyes. Now that the initial shock was over, confusion quickly turned to anger.

"Rob," she said in a dangerous tone of voice, "why is there a bunch of crazy Arabs shooting at us on a space station?"

"Not now!"

The vehicle garage opened up before them, and Robert stopped only to throw his parking chip at the attendant's booth. He made a dash for their newsvan, tore the door open, jammed the keys into the ignition, did it again because the goddamned thing wouldn't start, thumped his foot down on the accelerator like a man possessed. The van lurched into the waiting airlock, at which point the garage computer took over. It parked the vehicle into its slot and closed the airlock behind it. Just as the Arabs came flying around the corner.

"Jesus," gasped Robert. "Jesus." He almost jumped out of his skin when slender fingers grabbed his ear and twisted it like a master torturer.

"Lucy," Sally said, "you got some splainin' to do."

EQUIPMENT: WEAPONS

The tables following feature terms not addressed in the Playing the Game guide.

Skills Required:
Under the heading "Skills Required" is the skill level the character needs in order to effectively deal with that particular weapon. For some weapons, more than one skill is listed. This is because the weapon needs the character to have that combination of skills in order to be wielded properly.

If one skill has a higher level requirement than the other - i.e. firearms+1, gyrojet+3 - the first skill listed is the one used "to hit". In other words, George has skills of firearms+3 and gyrojet+5, and wants to use a flare pistol as a weapon. He has the minimum requirements to use the flare pistol effectively, but uses the firearms skill rather than his higher gyrojet skill for hit determination. This is because the firearms skill is more important than the gyrojet skill for this weapon.

Hit Table:
The column headed "Hit Table" refers to the next set of tables. These adjust the character's percentage to hit based on the characteristics of the weapon, and the characteristics of the target's armor. The skill rating gives the base percentage vs. skin (no armor), and the other adjustments are made accordingly.

Modes:
Modes are the ways in which the weapon can be used. These modes are:

T = Throw-Away
The weapon is not reloadable.

SS = Single-Shot
The weapon must be reloaded after each actuation.

SA = Semi-Automatic
Strike once each time the weapon is actuated

B = Burst Fire
Strike three times each time the weapon is actuated

A = Full Automatic
Strike ten times each time the weapon is actuated

Concealability:
Concealability is the ease with which a weapon can be hidden when wearing ordinary clothing. If a character wants to conceal a weapon, a check against the weapon's concealability is made by the character attempting to conceal. Rolling the Concealability rating or under means that the weapon is successfully hidden to a casual look. Rolling over means the weapon is spotted.

If the character doing the lookover is suspicious or on their guard, the concealability number is halved. Actively searching will reveal all weapons with a Concealability rating less than 10%, and 50% of all other weapons. Full Body Cavity search will reveal all weapons.

Shaded Columns:
Weapons in shaded column are restricted most everywhere. Either they are intended as military only weapons, or they are proscribed for other reasons. These items can be found on the Black Market for 5 X the stated cost, if you have the connections.

Weapon Stats

WEAPON	DAMAGE	SKILLS REQ	HIT TABLE	RANGE	MODE
Assault Rifle	+25	firearms+1	kinetic	long	SA/A/B
Automatic Rifle	+25	firearms+1	kinetic	long	SA
Axe	+30	melee+2	cut	pt bl	SA
Baton	+0	melee+1	bash	short	SA
Brass Knuckles	+5 to unarm	melee+1	unarmed	pt bl	SA
Chemical Grenade	drug fog	melee+1	N/A	short	T
Combat Knife	+10	blade+1	cut	short	SA
Crossbow	+40	bow+1, firearms+2	arrow	long	SS
Dagger	+0	blade+1	cut	short	SA
Dart Rifle	drug+15	firearms+3	arrow	long	SS
Flare Pistol	+40	firearms+1, gyrojet+3	kinetic	short	SS
Flash Bang Grenade	stun	melee+1	N/A	short	T
Grenade Launcher	See Grenades	gyrojet+3	See Grenade	long	SA
Gyrojet Pistol	+20	firearms+1, gyrojet+1	kinetic	med	SA
Gyrojet Rifle	+30	firearms+1, gyrojet+1	kinetic	long	SA
Hand Crossbow	+15	bow+1, firearma+1	arrow	med	SS
Hatchet	+15	melee+1	cut	short	SA
Heavy Pistol	+25	firearms+2	kinetic	med	SA
Machete	+20	blade+1	cut	pt bl	SA
Nunchaku	+20	melee+4	bash	pt bl	SA
Pistol	+15	firearms+1	kinetic	med	SA
Recurved Bow	+25	bow+4	arrow	long	SS
Shotgun	+35/+20	firearms+1	bash	pt bl/shrt	SA
Shrapnel Grenade	+40	melee+1	sting	short	T
Shuriken	+0	melee+1	arrow	short	T
Smoke Grenade	smoke	melee+1	N/A	short	T
Sniper Rifle	+25	firearms+5	kinetic	far	SS
Stinger	+60	gyrojet+2	bash	long	SS
Submachine-gun	+15	firearms+1	kinetic	med	A/B
Switchblade	+0	blade+1	cut	pt bl	SA
Taser	Stun	firearms+1	arrow	short	SS
Throwing Knife	+15	blade+2, melee+2	cut	short	SA
Unarmed	(varies)	Unarm, Martial Arts, or Brawl+1	unarmed	pt bl	SA

Hit Tables

Cut Hits		
Skin	Ballistic	Ceramic
0	-10%	-25
Arrow Hits		
Skin	Ballistic	Ceramic
0	-5%	-20
Bash Hits		
Skin	Ballistic	Ceramic
0	-15%	-25
Kinetic Hits		
Skin	Ballistic	Ceramic
0	-15%	-25
Sting Hits		
Skin	Ballistic	Ceramic
0	-25%	N/A
Unarmed Hits		
Skin	Ballistic	Ceramic
0	-10%	N/A

Weapon Costs

Weapon	Weapon Price	Conceal-ability
Assault Rifle	$900.00	5%
Auto Pistol/ Revolver	$350.00	30%
Automatic Rifle	$700.00	5%
Axe	$50.00	10%
Baton (metal striking stick)	$30.00	40%
Brass Knuckles	$15.00	95%
Chemical Grenade	$50.00	65%
Combat Knife	$125.00	80%
Crossbow	$400.00	5%
Dagger	$100.00	80%
Dart Rifle	$100.00	5%
Flare Pistol	$140.00	25%
Flash Bang Grenade	$50.00	65%
Grenade Launcher	$225.00	10%
Gyrojet Pistol (shoots tiny rockets)	$250.00	30%
Gyrojet Rifle (shoots tiny rockets)	$450.00	5%
Hand Crossbow	$225.00	15 %
Hatchet	$50.00	30 %
Heavy Pistol/Revolver	$450.00	25 %
Machete	$15.00	20 %
Nunchaku	$50.00	30 %
Recurved Bow	$350.00	0 %
Shotgun	$425.00	15 %
Shrapnel Grenade	$75.00	65 %
Shuriken	$8.00	95 %
Smoke Grenade	$50.00	65 %
Sniper Rifle	$250.00	5 %
Stinger (portable rocket launcher)	$2000.00	0 %
Submachine-gun	$425.00	10 %
Switchblade	$105.00	90 %
Taser	$600.00	80 %
Throwing Knife	$150.00	80 %
Unarmed	$0	100 %

Ghost Ship

On the landing pad the/Cracks ran through the concrete
Tri-sedges pushed up to the stars
Cold wind whispered whining/Sedges rustled ratlike
Holding the mark where we'd gone too far

Our ginger sun slid under/Dim and dark horizons
Launching black shadows across the gray
And as the stars lit lightly/Tracing the course completed
Fingering footsteps along the way

In the starlight glimmering
Soft and shadowed and shimmering
Finned and frosted
with the breath
of another older day
With my heartbeat hammering
Breath all steaming and stammering
I could see her
I believed her
Not forgotten but delayed

But then the mist it parted/Through it the night wrens darted
My dreams dissolved back to mist and tile
No one had sent her screaming/Through the stars all streaming
No one remembered the mother's child

In the misty moonlight/Hopeless hope demanded
Shaping a ship from the shadowed dark
Tricks of the light and longing/Tricks of the heart and hoping
Making of moonlight a battered ark

Yet in the starlight glimmering
Soft and shadowed and shimmering
Finned and frosted
with the breath
of another older day
With my heartbeat hammering
Breath all steaming and stammering
I could see her
I believed her
Not forgotten but delayed

Released October 22, 2004 by The Dave Matthews band

EQUIPMENT: PERSONAL

Electronics/Cameras

Table 1: Electronics

Mass	Item	Description	Cost	Date
0.05 kg	Satellite Phone	A small handheld radio transceiver	$100	2001
0.2 kg	Electronic Camera	Instrument for recording pictures and video on data storage units	$250	2001
0.2 kg	Audio Recorder	Instrument for recording audio data information	$50	All
0.05 kg	GPS Locator	Instrument for Satellite Location	$100	1990
0.1 kg	Game Player	Hand-held Game System	$60	1980

Clothing and Spacesuits

Table 2: Spacesuits

Year	Type	Spacesuit	Environmental Unit	Armor Value
1989-?	Volume Compensating Balloon Suit	30.5 kg	45 kg	Ballistic
1989-?	Hard Suit	55 kg	20.5 kg	Ceramic
1991-?	MCP Skinsuit	5.5 kg	20.5 kg	Ballistic

Table 3: Clothing and Armor

Mass	Item	Description	Cost
1 kg	Clothing	Normal street clothing typical of the place purchased	$50
1 kg	Expensive Clothing	Increases CHAR by 1 per $300 spent	varies
2 kg	Cold Weather Gear	Clothing designed to keep one warm on cold worlds	$250
2 kg	Flak Jacket	Ballistic armor worn over clothing	$350
1.5 kg	Bulletproof	Ballistic armor worn under clothing	$450
4.5 kg	Body Armor	Ballistic armor worn over clothing with hard ceramic plates in pockets over vital areas. Counts as Ceramic.	$1000
75.5 kg	VC Balloon Suit	Volume Compensating Balloon Suit	$500
75.5 kg	Hard Suit	Hard-Shell Vac Suit	$1550
25.5 kg	MCP Skinsuit	Skinsuit plus Environmental Unit	$1000

Provisions and Shelter

Table 4: Provisions & Shelter

Mass	Item	Description	Cost	Year
1 kg	Personal Tent	3-season non-airtight fabric shelter for one	$100	ALL
4 kg	3-man Survival Tent	4-season non-airtight fabric shelter for three	$400	ALL
2 kg	1-man Survival Tent	4-season non-airtight fabric shelter for one	$200	ALL
8 kg	Large Tent	3-season non-airtight fabric shelter for three	$350	ALL
0.5 kg/ meal	Cold Survival Rations	Essential nutrition lightweight non-degrading meals -1 endurance per week	$10/ Meal	1960
0.5 kg/ meal	MRE Rations	1200 calories per meal of various foods - Standard Army Individual Field Rations.	$7.25/ Meal	ALL

Miscellaneous Items

Table 5: Miscellaneous

Mass	Item	Description	Cost	Year
4 kg	Reaction Pistol	A compressed gas gun designed to allow maneuvering in weightless conditions	$350	1955
varies	Plastique	A shapable explosive which can be detonated electrically	$250cr/ kg	ALL
7 kg	Parachute	A device which uses air resistance to slow a fall	$400	ALL
20 kg	Life Raft	An emergency 6-passenger inflatable raft	$150	ALL
1 kg	Gas Mask	A face mask for filtering out atmospheric contaminants	$200	ALL
2.5 kg	Respirator	A device for concentrating thin atmospheres to a breathable density.	$250	1957
0.2 kg	Pocket Heater	A small radiant heater for quick warm-ups	$25	ALL
0.2 kg	Flashlight	Portable illumination device	$10	ALL

MultiTool/Swiss Army Knife

Table 6: Multitools

Mass	Item	Description	Cost	Year
		The MultiTool line is a handy grouping of tools in a small form factor.		
0.2 kg	MultiTool 1	Pick any 5 tools	$55	ALL
0.3 kg	MultiTool 2	Pick any 8 tools	$75	ALL
0.4 kg	MultiTool 3	Pick any 12 tools	$92	ALL

Tool List for MultiTool

Table 7: Tools for Multitool

Tools	Tools
Lock Pick	Scalpel
Fish Scaler	Fork
Can/Bottle Opener	Plane
Razor	Wire Strippers
Metal Snips	Scriber
Punch	Scissors
Clamp	Ratchet
Pliers	Saw
Chisel	Small Knife
Large Knife	Fastener Driver

Tool Kits

These tool kits give the given percentile bonuses to the designated skills, and are available in Standard, Deluxe, and Professional grades. Standard Kits cost the Base Cost, Deluxe Kits are Base Cost X 2, and Professional Kits are Base Cost X 3.

Table 8: Kits

Bonus % Skills	Item	Description	Base Cost
+3,+5,+7% Atomics	Atomic Repair Kit	Tool kit to enable repair of reactors and starship drives	$500
+3,+5,+7% Biology	Biology Testing Kit	Portable biological field lab	$550
+3,+5,+7% Carpentry	Carpentry Tool Kit	Woodworking tool kit	$25
+3,+5,+7% Chemistry	Chemical Testing Kit	Portable chemical field lab	$500
+3,+5,+7% Construction	Construction Tool Kit	Tool kit to enable construction of various structures.	$250
+3,+5,+7% Disguise	Disguise Kit	Face paints. putty, false facial hair, wigs, latex, shoe lifts, suit padding, and other disguise items	$375
+3,+5,+7% Diagnosis.	Doctor's Diagnostic Kit	Implements for accurate diagnosis of medial problems	$600
+3,+5,+7% Surgery	Doctor's Surgical Kit	Implements for surgery - scalpels, saws, trepanning tools, sutures, clamps, spreaders, and other items	$1500
+3,+5,+7% Electronics	Electronics Tool Kit	Electronics tool kit to enable electrical/electronics diagnosis, repair, and manufacture	$375
+3,+5,+7% Smithing	Forge Kit	Portable forge with bellows, small anvil, tongs, hammers, chisels and other smithing tools	$375
+3,+5,+7% Repair	General Repair Kit	Tool kit for general light mechanical and electronic repair	$375
+3,+5,+7% Pick	Lockpicks	Various types and weights of lockpicks	$250
+3,+5,+7% Mechanics	Mechanics Tool Kit	Mechanic's tool kit to enable repair, alteration, and construction	$375
+3,+5,+7% Weather	Meteorology Kit	Anemometer, barometer, rainfall gauge, and other meteorological equipment	$225
+3,+5,+7% Mineralogy	Mineral Assay Kit	Portable field assay station	$325
+3,+5,+7% Drug	Pharmacology Kit	Drug compounding kit with the most common drugs for various purposes	$500
+3,+5,+7% Survival	Survival Kit	Extra light blanket, chemical firestarter, water purifier, fish hook, line, and other useful tools	$250

Thursday, September 30th, 1999

He'd sat in the van with her and laid it all down on the drive to Luna. Afghanistan, 1979. The invasion. When things went from bad to worse under the newly-formed Communist Afghan government, the Soviets drove in, seized the entire capital of Kabul in one brief morning . . . And one Robert Mercer, anthropology postgraduate at New York University, was in-country working on his thesis.

It didn't take long before the Soviets showed up in Sharan, with their olive-drab uniforms and their buzzing contragravity gunships. The entire 40th Army -- two rifle divisions, an airborne division, a grav/assault brigade and two separate contragrav rifle regiments -- swarmed into the country to get things firmly in hand. They failed. As always, an occupation in the Middle-East had the same prospects as a land war in Asia. Resistance units popped up faster than anyone would've believed, and every operation the Russians launched was ground to an awkward halt by the rural wilderness of steppe, rock and desert.

Robert, on the other hand, had spent some time getting to know the countryside and the people. They'd started to tell him things. Useful things. Things that could easily pay for his education if they got to the right ears.

The first time, all he felt was fear -- the first time he approached the man he suspected to be a KGB agent. A minor piece of info, the location of a Mujahedeen hideout in a cave near Sharan. Robert's Russian was terrible, but it turned out the man spoke English quite fluently. Quite fluently.

He couldn't say when it happened. One too many transactions, one too many bits of information that got back to Soviet ears. The Mujahedeen found out. They came for him in a coffee shop, and he only barely got away with his life, with KGB help. He fled back to the States, quit his studies and took a KGB sponsorship into broadcasting. But the Afghans didn't forget.

He ran again. First from Afghanistan, then from Earth, and now . . .

He'd tendered his resignation on the drive to Luna. He sold everything he owned and left it all behind. He visited a back-alley surgeon who sent him away with a new look, a new identity, a new semi-life on the fringes of the Oikumene.

Rupert Mulder opened his eyes again, pulled out of his woolgathering. He ought to know better than to let his attention wander on the job. Out here, it could get him killed.

The alleys of Archtown stank of piss and drunken drifters, lost hope and weariness of the soul. The sky turned bloody red under the last rays of the sun. Even after sundown, though, darkness never touched this place the way it touched Earth. The vast pink orb of gas giant Lalande II hovered starkly against the night sky, and washed the tiny moon in its reflected light.

Gravel crunched under his boots as he hurried down the footpath. No one built roads anymore, not outside Sol. The cryobox in his coat pocket banged against his hip with every step, but he put the pain out of his mind and tried to look natural. As natural as one could look whilst wearing a trenchcoat, dark sunglasses and a week's worth of stubble. He barely recognized himself when he glanced into a passing shop window; the strange reflection seemed almost cartoonishly disreputable.

A good thing Saif didn't have police. Just progressively nastier predators.

His heart raced as he got closer to the starport warehouse, driven by a pounding mix of adrenaline and thin mountainous air, and his breath steamed in the autumn cold. An oil-black gravcar waited on the grass next to the warehouse entrance. The windows were opaqued, but his professional danger sense told him it wasn't empty. It radiated menace. The buyer never went anywhere without his squad of hired Russians the size of oak trees.

The doors stayed closed as he went on inside, blinking against the deeper darkness of the warehouse. A coffin of corrugated prefab steel, so thin it would blow over in the next good storm, but enough to hide people's shady dealings from view. Saif was a haven for things like that, a microcolony settled by the Russian Organizatsiya -- the Red Mafia -- built on a foundation of old Soviet equipment and drug money, for no reason but to avoid any law other than their own. Which made the need for secrecy even more pressing. Someone who let the competition see what he was doing would find himself at the bottom of the harbour and replaced by some enterprising Russians before he could spit.

Rupert reached into his other pocket and touched the photo he kept there for comfort. A bad picture of Mrs. Sally Mulder, who'd followed him out here for reasons he could never hope to under-

stand. He sighed and forced himself to relax, but kept his guard up nevertheless. You could never tell what was going to happen during these transactions. Sometimes he missed the old reliable KGB.

"I was beginning to think you would not appear," came a voice from the corner, speaking in thickly-accented Russian. Robert strained to understand the words. "Have you the box?"

"Of course," Robert replied. He reached into his pocket, brought the box out in front of him where he could not easily be shot without hitting the goods. He winced as someone turned a flashlight on him, the beam flicking back and forth between the box and his face. He had to look away from the intense light, but he caught a glimpse of several dark silhouettes from the corner of his eye. A group of armed men in formation around the man with the light. Robert struggled not to drop the box for the sweat gushing out of his palms. "Good enough, comrade?"

"You are not the messenger," the voice went on. "Who are you? Identify yourself! What is the meaning of--" The words cut off abruptly. There was a grunt of pain, and the distinct hiss of silenced gunshots, followed by a few brief shouts. But it all sounded distant, distorted -- as if from a tape recording. Something plastic smashed into the ground at Rupert's feet, and the firefight fizzled out as the player burst into flames.

"Put your hands on your head, Mr. Mercer," a very different voice said in Arabic. The words had a ring of menace to them, like a tiger speaking to a foal. Robert swallowed. He knew that voice. "It's past time certain accounts were set aright."

Star Travel & Space Combat

Star Travel

In FTL Now, travel in space is determined by speed. A short boost at the beginning of the flight is followed by a long drift at a steady speed. There may be tiny mid-course corrections, but at the end of the flight, the ship has to be decelerated to a relative zero. Remember, ***orbits are speed***! To reach an orbit you have to be travelling at a certain speed. To change orbits - called a transfer - requires you to speed up or slow down. In either case you are using thrust.

To make things simple, we use a device called "Thrust Units." Each thrust unit adds speed to the ship in the direction the ship is pointing. To speed up, you thrust towards the direction you are traveling. To slow down, or brake, you thrust away from the direction you are traveling.

We are also using a device called "Standard Orbits." Standard orbits are the approximate orbits of the Solar planets - Orbit 1 is Mercury, 2 is Venus, 3 is Earth, 4 is Mars, 5 is the Asteroid Belt, 6 is Jupiter, 7 is Saturn, 8 is Neptune, 8 is Uranus, and 10 is Pluto. In other solar systems, more than one planet may occupy the same Standard Orbit. In such cases, Contragravity alone is needed to move from planet to planet.

To find the number of orbits required for a particular transfer, subtract the lower orbit number from the higher

Example:
Mars is in Standard Orbit 4, and Jupiter is in Standard Orbit 6. To move from Mars to Jupiter, or vice versa, is 6 - 4, or 2 Standard Orbits.

Contragravity can be used to lift off a planet and to provide an additional 2 thrust units before leaving the presence of the planet. Thus, it alone is sufficient for lunar exploration or transferring to another planet in the same Standard Orbit. No other system is required. Contragravity cannot transfer between Standard Orbits.

Action		Thrust Units Req'd
Lift off terrestrial planet		**8**
Lunar orbit/Same standard orbit transfer		**1**
Transfer between planet orbits		**3 per orbit**
Solar escape (at earth)		**16**
Solar escape (at Jupiter)		**8**
Reach speeds of 0.25 ly/day (after solar escape) using FTL Level 1		**1**
Reach speeds of 0.75 ly/day (after solar escape) using FTL Level 2		**1**

Example:
We want to travel from Earth to Callisto Base. We need 8 Thrust Units to lift from Earth. Then we need 3 Thrust Units to reach the orbit of Mars, then 3 more to reach the Asteroid Belt, then 3 more to reach Jupiter. One more is needed to reach Callisto's Lunar orbit. The total is 18 Thrust Units. Our ship, a Northrop Grumman Astro Cat, is equipped with Contragravity (9) and 14 Fluidized Bed Thrust Units for a total of 9+14= 23 Thrust Units. It takes 1/2 hour for planetary escape. A change of 3 orbit numbers would be (((10*3)=30)+((d%(54)/2)=27)= 57 hours. The phrase ((d%(54)/2)=27) means "A 1d100 roll with the result of 54, divided by 2, for a value of 27." To this we add 1/2+1/2 hours for landing and reorbiting from Callisto.

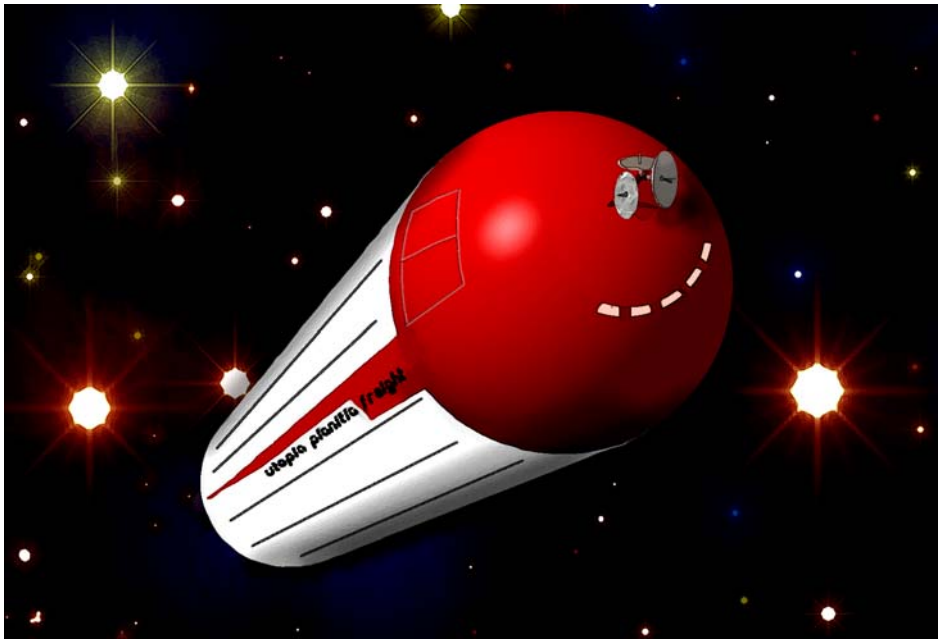
Next our ship goes to the Omicron (2) Eridani A system, 16.5 lightyears away. After topping off tanks at Callisto, the ship must exit the Sol system at a cost of 8 Thrust Units, coast to Alpha Centauri A, then decelerate into the system at a cost of another 8, totalling 16. The Particle Bed Nuclear Thermal Rocket provides 8 units, the Jovian slingshot 4, and the O. (2) Eridani VIII slingshot another 4, also totalling 16. We use the remaining 7 Thrust units to accelerate the trip, using the military grade Level 2 Solothurn Drive. The interstellar trip takes.75 ly per day per thrust unit, or 16.5 ly/ 5.25 = 3.14 days in transit.

Finally our ship must go to Sprague Star Port on O. (2) Eridani IV A. O. (2) Eridani is in Standard Orbit 6, O. (2) Eridani IV in Standard Orbit 3, a difference of 3 orbits - or 9 Thrust Units. Our ship has 0 thrust units left, and the Contragravity Drive can't be used to transfer between standard orbits, so it must go to first to Wilderness Station on O. Eridani VIII.6 to refuel.

It brakes into Wilderness Station and lands, using 8 Thrust Units from its Contragravity Drive, refuels, and lifts off again using another 8 Contragravity Thrust Units, taking 1/2 + 1/2 hours. Changing 3 Standard orbits costs 9 Thrust Units, and braking into Sprague Starport costs another 8. We have 14 Thrust Units from our Nuclear Thermal Rocket, and 9 from the Contragravity Drive, and land at Sprague Star Port, safe.

The voyage from Wilderness to Sprague takes 1/2 hour for planetary escape, a change of 3 Standard planetary orbits for (((10*3)=30)+((d%(38)/2)=19)= 49 hours, plus another half hour to land at Sprague.

The total trip takes 0.5 + 57 + 0.5 + 0.5 + (9.5 * 24 = 75.5) + 0.5 + 0.5 + 49 + 0.5 = 3 + 75.5 + 57 + 49 = 185 hours, or a little over 7 days.



Transit Times

Note: Planetary transfer times assume minimum transfer speeds. For 4 extra thrust units, transfer time can be cut in half; with 8 extra units, to 1/3, for 12 extra to ¼, etc.

Transfer Type		Transfer Time
Planetary escape		**½ hour**
Planet in same standard orbit transfer		**5 hours +d%/2 hours**
Lunar transfer		**1 hour**
Major planet transfer		**10 hrs per orbit number +d%/2 hours**
Reach another star		**0.25 ly/day per thrust unit**

Orion ships use nuclear explosions for propulsion, but most of the reaction mass is from some other hydrogen-rich substance. Polyethylene is a good choice. Water could also be used, though it is less efficient. However using water allows for refueling in a primitive system with no established colony. The available thrust units for a water-fueled craft should be reduced by 2 per fueling to account for the weight of additional nuclear charges and water containers. For example, a Orion stage that was going to travel to another system, refuel, and return would have 20 – (2*2) = 16 units of thrust outbound and another 16 units after loading water at the other system.

The Orbits

The 10 available standard orbits are centered at the following distance from the star:

Orbit #	Distance in miles	Distance in kilometers
1	35,000,000	56,500,000
2	65,000,000	104,500,000
3	90,000,000	145,000,000
4	150,000,000	241,500,000
5	275,000,000	442,500,000
6	500,000,000	805,000,000
7	1,000,000,000	1,610,000,000
8	2,000,000,000	3,220,000,000
9	3,000,000,000	4,830,000,000
10	4,000,000,000	6,440,000,000

Space Combat

The players are encouraged to dramatize and narrate the results of the combat, especially making use of in-character dialog over the ship's Radiocomm net. This system does not scale well for use in situations of spaceships vs. vehicles and people. Starship weapons are incomparably more powerful than vehicular and personal weapons. Wherever reference is made to ships, small craft are intended as well.

Sides make standard % dice initiative rolls. Side goes on its initiative.

Radiocommunications Control

Radiocomm coordinates all activities.
Each round of combat, Radiocomm rolls an Electronics check. If the check fails, all subsequent activities have a further -5 penalty applied.

Firing weapons at target

Radar acquires the target for the gunner, vastly improving chances to hit.

For each weapon, Radar rolls an astronomy check. If the check fails, the gunner has a -20 penalty to hit.

Gunner for that weapon rolls to-hit, with these modifiers.
Target not evading (surprised for instance) = automatic hit

Penetration of Defences

The character manning the defence station attempts to block penetration of the Defences by the weapon if a hit is scored.

A successful ship's guns check means the weapon did not penetrate and the attack fails. An unsuccessful check means the weapon penetrated.

Damage

If weapon penetrates, roll damage. Damage is 1d10*DM*100. GM interprets the damage result for best judgement of the effect and describes it to the players.

Any damage roll of 10 on the 1d10 is a critical hit, and a second d10 is rolled. Multiply the damage times this result for critical damage.

Example:
KEW mine penetrates for damage. A 1d10 is rolled, and a result of 10 is obtained. This is a critical hit, and a second d10 is rolled for a Critical Damage result of 4.
Final damage = 1d10(10)*DM(2)*100=2000*Critical damage(4) = 8000

If a 10 is rolled for the Critical Damage, another critical damage d10 is rolled and multiplied by the previous result.

Example:
KEW mine penetrates for damage. A 1d10 is rolled, and a result of 10 is obtained. This is a critical hit, and a second d10 is rolled for a Critical Damage result of 10. A third d10 is rolled for a Critical Damage #2 result of 4 Final damage = 1d10(10)*DM(2)*10=2000*Damage(10)*Critical damage #2(4) = 80000

This process is open ended - that is the multipliers continue to accrue until a Critical Damage result of less than 10 is rolled.

Armor

Armor absorbs damage which is below a critical amount. This amount is 500*armor factor. Any damage over this amount indicates the armor has been penetrated, and the entire amount is applied to the ship.

Example:
A ship has an armor factor of 2. The critical amount is 2*500 or 1000.
The ship is hit for 800 points. This entire damage is absorbed by the armor.
The ship is hit for 8000 points. This entire damage is applied to the ship

Maintenance

Maintenance controls Damage which penetrates armor:

A successful electronics roll by Maintenance will halve (*.5) damage.
A successful mechanics roll by Maintenance will halve (*.5) damage.
If both rolls are successful, damage is quartered (*25).
On small ships and craft, Maintenance is usually done by the Engineer.

Ship Constitution

Ships have 10 constitution points per ton, rounded up.

Examples:
25 ton small craft = 250 constitution
100 ton shuttle =1000 constitution
5500 ton merchantman = 55000 constitution

At its full constitution*.75, the ship is Hindered.
All rolls are at -20% and max acceleration is *.75
At its full constitution*.50, the ship is Damaged.
All rolls are at -40% and max acceleration is *.5
At its full constitution*.25, the ship is Hammered.
All rolls are at -60% and max acceleration is *.25

A successful drives check will repair 200 constitution points per round.
A successful mechanics check will repair 100 constitution points per round.
A successful electronics check will repair 100 constitution points per round.
Once a ship passes Damaged level, repairs cannot fix the ship beyond Hindered level.
Once a ship passes Hammered level, repairs cannot fix the ship beyond Damaged level.
In order to fully repair this damage, the ship must go to a starport for a refit.

Duties of the Crew in Combat

This combat system is designed to keep all the crew involved in combat, giving each a task to perform as a team.

Every Round

Radiocomm coordinates all activities, allowing the crew to work as a team, rolling checks against programming to avoid communications failures.

Each Weapon Firing at Target:

Radar acquires the target for the gunner, predicting movement in time lag, rolling an astronomy check to avoid failing to correctly acquire target

Gunner fires the weapon, rolling a ship's guns check to hit the target.

Each Hit on ship:

Defense attempts to destroy or misdirect the weapon, as appropriate

Each Weapon that penetrates Defense:

Pilot maneuvers the ship, rolling a pilot check to avoid hits:

Each Unavoided Hit:

Check to see if Armor absorbs damage

Each Unabsorbed Hit

Maintenance runs damage control, rolling a mechanics and electronics check to limit damage.

Every Round:

Engineering repairs accumulated damage with checks against drives, mechanics and electronics

Security detects hostile intrusions and organizes resistance.

Example of Play

In this example, the PCs are Eunice (Defense Tech), Gregor (Engineer), Kevin (Radar Tech), and Ketto (Gunner). The other parts are played by the GM as NPCs. The PC's ship, the Asa B. Pettit, is a 2000 ton craft which has been jumped by the Perkin Warbeck, a competitor of similar size, as they are nearing their destination. After several rounds, the Warbeck and the Pettit are both Hindered, making them start out the round at -20% on all skill checks.
The ships roll initiative for the round, and the Warbeck wins.

GM as **Nate** (Radiocomm Op): (Rolls an Electronics check and fails) "Whoa, The circuit is jammed! That last hit did more than knock out the Contragrav!". *The ship is now at -25% for all skill checks.*

GM to the group: "The Warbeck fires a missile and a rocket." Rolls skill checks for the Warbeck's gunners and succeeds twice. "Look out! The missile and one rocket are both targeted dead on!"

GM as **Micah** (Pilot): (Rolls a pilot check and fails) "Great! I just zigged when I shoulda zagged! Eunice! You'd better get these babies!"
Eunice (Defence Tech): (Rolls a ship's guns check at -25 and succeeds) "Yes! I nailed that damned missile with the #2 Hedgehog! Have you got the rocket, Kevin?"
Kevin (Radar): (Rolls an astronomy check and fails) "Dang it! I must have lost it in the Hedgehog flare!"
Eunice (Defence Tech): (Rolls a ships guns check and barely fails) "Arrrrgh! I hit it too late! Brace yourselves folks! We're gonna get nipped!"

(Being a trader, the Pettit has no additional armor, thus none of the blast is absorbed.) GM to group: "The rocket penetrates the defences and detonates too close to the ship!" (GM looks down systems tables, decides on the Radar Array Subsystem) (GM rolls damage on a d10 and gets a 7, for a damage result of 7000, putting the ship below Damaged level if Damage Control fails.) "Kevin! Radar just filled with noise! You are having trouble picking out the other ship. Gregor! There's a fire in the sensor tunnel, and one of the bulkheads has collapsed over the data line."

Gregor (Engineer - the ship has no Maintenance Tech): (Rolls an electronics check and succeeds) "I'm on it! I've got the fire out, now to relieve the pressure from that ruptured bulkhead!" (Rolls a mechanics check and succeeds) "Whoo-hoo! Who da man! Who da man!"
GM: (reduces the damage to 1750 points (7000*0.25) which leaves the ship back above Damaged level) "Kevin, Radar just snapped back in! You are go!"
Kevin (Radar Tech): "You bet! That was a close one! Piotr! (rolls an astronomy check and succeeds) "I've got a bit better lock. Sending!"
Danner: "Good luck Piotr!"
GM as **Piotr** (Reaction Gunner): (Rolls a ship's guns check at -15 (-25 + 10) and fails spectacularly) "No good, guys! That one was so far off I might have hit *us*!"
Kevin (Radar Tech): "Sorry Piotr!" (Rolls an astronomy check and succeeds) "Got one for you, Ketto! Nail the bastard!"
Eunice: "I got my fingers crossed, Ketto!"
Gregor: "Get him, Ketto!"
Ketto (Missile Gunner): "Beautiful!" (Rolls a ship's guns check at -15 (-25 + 10) and succeeds) "Oooh Yes! Take *that* Mister Warbeck!" (rolls damage on a d10 and gets a 10.) "Whoooeeee! Critical, baby!" (Rolls a d10 again and gets an 8 for a total of 24000 (3*10*8*100) points of damage) "Sent that one right up the old tubes!"
GM: "You see the Nuke warhead explode just behind the *Warbeck*, right on the tail." (Rolls for mechanics and electronics checks for opposite maintenance and fails both times) "The 'Warbeck explodes spectacularly in a huge fireball. Streamers of unidentifiable debris go streaming in all directions. Congratulations!"
Gregor (Engineer): "Yes! Now for the repair party!" (Rolls a drives check and succeeds) "I got a success on Contragravity! Hallelujah!" (Rolls a mechanics check and fails) "The cargo doors are still stuck. I'm gonna have to work on that!" (rolls an electronics check and succeeds) "Yeah! I got the landing gear working again, I think! We are rocking!"

GM: (Adds 500 points to the total ship constitution, moving it slightly above Hindered level.) "Contragravity is back online, though it's oscillating bad. The landing gear indeed retracts, but it's jerky. You guys got a lot of work ahead of you!"

The Solothurn Engine

The Solothurn Engine - AKA the Corkscrew Drive - is the device which produces both the FTL and Contragravity effects. The engine is a mechanical-magnetic device, which accelerates heavy metal particles to enormous speeds in a helical pattern, which gives the engine it's slang name.

The engine is a complex device, but far simpler than those available in the Cold Space era. It is controlled by computer programs under the supervision of the ship's Engineer.

The Solothurn Engine requires a large amount of power to operate - something the size of a large marine diesel at least, and a nuclear power plant for larger vessels.

Both effects of the engine are felt by those in its area as a 'shuddery' or 'quivering' feeling, faintly nauseating to most.

FTL

The FTL effect works by compressing space in the local area, thus effectively acting as a speed multiplier. The amount of compression achieved is inversely proportional to the gravitational field in the local area, up to the maximum rating for the drive. To the people on the ship, it appears to be travelling at normal speed, but to an outside observer, the ship appears to be moving faster than light.

The Level 1 FTL effect used in civilian ships has a maximum compression of 1,000,000:1. Level 2 FTL, which has a maximum of 3,000,000:1, is only available to the military ships of the USA, Russia, and the CCA.

Contragravity

Contragravity is a thrust drive. It works in inverse proportion to the gravity in its local area, thus the steeper a gravitational slope is, the stronger the Contragravity effect. Contragravity is not artificial gravity, and does not provide simulated G inside spaceships, nor does it isolate those inside the ship from local gravitational effects. It is produced by the same engine which produces the FTL effect.

Burning and Going Inertial

Orbital transfers are accomplished by accelerating the ship, expending fuel or reaction mass and accelerating in the opposite direction. This is called a 'burn,' and the duration of a burn varies depending on the craft and its drives, but is generally rated in minutes.

Once the burn is complete, the ship drifts at its new speed at zero-g, until braking or accelerating again with another burn. This is called 'going inertial.' Passengers and crew will be weightless while the ship is inertial, unless the ship has a rotational artificial gravity.

Artificial Gravity (Spinning)

Artificial gravity can be produced by spinning, using the centrifugal force to produce an apparent thrust. Most ships don't use spin as it is expensive in terms of resources and mass, and the periods of zero G are short enough to not be dangerous. Stations and Habitats, on the other hand, depend on spin. After a number of days spent inertial, or weightless, muscle mass starts to deteriorate and bones begin to weaken, thus stations always rotate to provide artificial gravity.

Setting Up and Running Space Combat

Space combat in FTL Now will happen in one of three scenarios. The GM should inform the players which kind of encounter this is before combat begins.

1: The Low Speed Encounter

In this scenario, the most likely kind, the ships are at a relatively low speed, usually around a world or station, either coming in or leaving. Their relative speeds are similar, and there is a lot of time for maneuver and firing. These encounters tend to be slug-fests, with the opponents hammering away at each other for several rounds, with the winner the last one standing.

2: The Fly-By

In this scenario, the ships are at very high relative speed - that is, the difference in speeds between the ships is very large or the ships are on very different vectors. There is time for one or two shots before the range becomes too great. Because of the extreme combined speeds involved, the damage from any hit is ten times normal.

3: The High Speed Encounter

In this scenario, the least likely, the ships are headed in approximately the same direction, at approximately the same high speed. This is usually in the outer systems, or in interstellar space. Because of the speeds involved, damage from any hit is five times normal.

Remember that in FTL Now, ships are essentially ballistic missiles. They cannot zip back and forth, or reduce and gain speed easily. The pilots' maneuvering consists of slight twists and turns using maneuvering thrusters, not the main engines. These maneuvers do not actually turn the ship's course more than a hair. Turning away from your base course - i.e. unplanned thrusting - in almost never a good idea. The faster you are going, the bigger your turning radius, and the easier you are to track. Using too much reaction mass in combat is essentially a death sentence, as you won't have enough to brake at your destination. If you turn too far from your base course, you may not be able to turn back.

When should Space Combat Occur?

If your PCs are civilians, space combat is never a good option. It may be the only option, but it should be pretty much the last option. If it seems inevitable, try to get as many advantages as possible on your side - including the element of surprise.

If your PCs are in a military ship, it's a different story. Fly-bys are always good if you can get them. Your ship will be heading in very fast, perhaps just behind it's detection wavefront, and their ships are sitting ducks. If they return fire after you have passed, their missiles have a long stern chase ahead of them, which cuts down on their effectiveness.

Don't shoot single shots - shoot salvos. A military ship doesn't care if the missiles cost a million bucks apiece. Civilian ships do. A salvo vastly increases the chances of a hit. In FTL Now, missiles are the prime weapon, though some older ships still have reaction cannon. Missiles have pre-programmed flight paths set before launching, and only begin homing when their sensors pick up a target nearby. To defend against missiles, your ship must either decoy them by setting up alternate, false targets or by shooting them up before they get into range.

Keeping the enemy off balance is the prime combat skill. In FTL Now, being predictable is closely related to being dead.

Average Transit Times between Standard Orbits.

	1	2	3	4	5	6	7	8	9	10
1		35	45	55	65	75	85	95	105	115
2	35		35	45	55	65	75	85	95	105
3	45	35		35	45	55	65	75	85	95
4	55	45	35		35	45	55	65	75	85
5	65	55	45	35		35	45	55	65	75
6	75	65	55	45	35		35	45	55	65
7	85	75	65	55	45	35		35	45	55
8	95	85	75	65	55	45	35		35	45
9	105	95	85	75	65	55	45	35		35
10	115	105	95	85	75	65	55	45	35	

Average Transit Times Through Interstellar Space Using FTL Level 1

			Light Years	FTL LEVEL 1		
Thrust Units	1	2	3	4	5	6
1	96	192	288	384	480	576
2	48	96	144	192	240	288
3	32	64	96	128	160	192
4	24	48	72	96	120	144
5	19	38	58	77	96	115
6	16	32	48	64	80	96
Thrust Units	7	8	9	10	11	12
1	672	768	864	960	1056	1152
2	336	384	432	480	528	576
3	224	256	288	320	352	384
4	168	192	216	240	264	288
5	134	154	173	192	211	230
6	112	128	144	160	176	192
Thrust Units	13	14	15	16	17	18
1	1248	1344	1440	1536	1632	1728
2	624	672	720	768	816	864
3	416	448	480	512	544	576
4	312	336	360	384	408	432
5	250	269	288	307	326	346
6	208	224	240	256	272	288
Thrust Units	19	20	21	22	23	24
1	1824	1920	2016	2112	2208	2304
2	912	960	1008	1056	1104	1152
3	608	640	672	704	736	768
4	456	480	504	528	552	576
5	365	384	403	422	442	461
6	304	320	336	352	368	384

Average Transit Times Through Interstellar Space Using FTL Level 2

			Light Years	FTL LEVEL 2		
Thrust Units	1	2	3	4	5	6
1	32	64	96	128	160	192
2	16	32	48	64	80	96
3	11	21	32	43	53	64
4	8	16	24	32	40	48
5	6	13	19	26	32	38
6	5	11	16	21	27	32
Thrust Units	7	8	9	10	11	12
1	224	256	288	320	352	384
2	112	128	144	160	176	192
3	75	85	96	107	117	128
4	56	64	72	80	88	96
5	45	51	58	64	70	77
6	37	43	48	53	59	64
Thrust Units	13	14	15	16	17	18
1	416	448	480	512	544	576
2	208	224	240	256	272	288
3	139	149	160	171	181	192
4	104	112	120	128	136	144
5	83	90	96	102	109	115
6	69	75	80	85	91	96
Thrust Units	19	20	21	22	23	24
1	608	640	672	704	736	768
2	304	320	336	352	368	384
3	203	213	224	235	245	256
4	152	160	168	176	184	192
5	122	128	134	141	147	154
6	101	107	112	117	123	128

All Average Transit Times are in hours. For example, moving from Orbit 2 to Orbit 5 would average 55 hours. Divide by 24 for number of days.

Average Interstellar Transit Times vary by the extra Thrust Units used during the passage.

FTL Level 2 is only available to US Rocket Corps ships.

The GM can use these average times, varying the times by a few hours either way if wished, for voyage times.

FTL Now Starships

Starships in FTL Now are rated on Thrust Units. For clarity, we assumed the 8 Thrust Units (TU) needed to lift off planet and did not add it, so that the interplanetary range is obvious.

Ship Manufacturer:

This is the Original Manufacturer of this model. Sometimes, manufacturers consolidate - i.e. MacDonnell Spatial and Douglas Interplanetary became MacDonnell Douglas.

Ship Type:

This is the intended role of the ship, although sometimes adapted to other roles later on.

Ship Name:

This is the model name in the case of small craft, or the class name in the case of larger ships.

Date Available:

This is the year the ship first became operational.

Size in Tons:

This is in metric tons.

Crew:

This is the intended or usual crew.

Fuel Tonnage:

This is metric tons.

Fuel Type:

LH-LO (Liquid Hydrogen - Liquid Oxygen) indicates a chemical rocket.

LH Reaction Mass indicates pure Liquid Hydrogen reaction mass used in a NERVA, Particle Bed (PB) or Fluidized Bed (FB) rocket.

Gel/Water Shelled Atomic Bombs indicates the fuel bombs used by the type of Orion ship which travels to unsettled planetary systems.

Polyester Shelled Atomic Bombs indicates the fuel bombs used by the type of Orion ship which usually operates in the Solar System, though it can leave.

Curium 245 Pellets indicates the use of laser-squeezed sub-critical fuel to produce explosions in a Mini-Mag Orion engine.

Cargo Tonnage:

This is the mass available after all systems necessary for ship operations are subtracted. It can be used to haul cargo, passengers, or weapons.

Contragravity Fuel:

Oxidizer indicates a fuel containing an oxidizer, such as Hydrogen Peroxide.

Nuclear indicates that the Contragravity is powered by the ship's atomic reactor.

Cold Space Era Ships Commonly In Use

These are ships from the Cold Space Era still in common use in the FTL Now Era. Many of these - especially NERVA type ships - have been updated with Particle or Fluidized Bed Nuclear Thermal Rocket engines.

FTL Now Spaceships

These are ships designed and built with the more advanced technologies available in the FTL Now era. Military ships in this list all have FTL Level 2 Solothurn Drives.

Obsolete Weapons

Some weapons are listed as obsolete. These are no longer used by the military, but remain listed as a lot of older ships are still equipped with them, and they are sometimes added to non-military ships. Munitions remain available.

Cold Space Era Ships Commonly In Use

Ship Manufacturer: Grumman Aerospace
Ship Type: Mars Shorthauler 4TU
Ship Name: Grumman Mars Cat
Date Available: 1952
Size in Tons: 528
Crew: 3
Fuel Tonnage: 325
Fuel Type: LH-LO
Cargo Tonnage: 169
Contragravity Fuel: Oxidizer

Ship Manufacturer: Grumman Aerospace
Ship Type: Interstellar Carrier 12TU
Ship Name: Grumman Atom Cat
Date Available: 1957
Size in Tons: 1125
Crew: 3
Fuel Tonnage: 875
Fuel Type: LH Reaction Mass
Cargo Tonnage: 201
Contragravity Fuel: Nuclear

Ship Manufacturer: Consolidated Vultee
Ship Type: Interstellar Carrier 12TU
Ship Name: Catalina II
Date Available: 1958
Size in Tons: 2925
Crew: 6
Fuel Tonnage: 2275
Fuel Type: LH Reaction Mass
Cargo Tonnage: 572
Contragravity Fuel: Nuclear

Ship Manufacturer: General Atomic
Ship Type: Colony/Capital Ship 18TU
Ship Name: Orion
Date Available: 1953
Size in Tons: 10120
Crew: 150
Fuel Tonnage: 5720
Fuel Type: Gel/Water Shelled Atomic Bombs
Cargo Tonnage: 1476
Contragravity Fuel: Nuclear

Ship Manufacturer: General Atomic
Ship Type: Colony Ship 18 TU
Ship Name: Draco
Date Available: 1956
Size in Tons: 101200
Crew: 300
Fuel Tonnage: 57200
Fuel Type: Gel/Water Shelled Atomic Bombs
Cargo Tonnage: 14760
Contragravity Fuel: Nuclear

Ship Manufacturer: General Atomic
Ship Type: Capital Ship/Carrier 24 TU
Ship Name: Scorpio
Date Available: 1958
Size in Tons: 105600
Crew: 450
Fuel Tonnage: 65600
Fuel Type: Polyester Shelled Atomic Bombs
Cargo Tonnage: 17680
Contragravity Fuel: Nuclear

Ship Manufacturer: Electric Boat
Ship Type: Lunar Hauler 0 TU
Ship Name: Angelfish
Date Available: 1956
Size in Tons: 10000
Crew: 40
Fuel Tonnage: 2000
Fuel Type: N/A
Cargo Tonnage: 7800
Contragravity Fuel: Oxidizer

Ship Manufacturer: Greyhound Aerospace
Ship Type: Lunar Bus 0 TU
Ship Name: Greyhound Skycruiser
Date Available: 1955
Size in Tons: 10
Crew: 1
Fuel Tonnage: 2
Fuel Type: N/A
Cargo Tonnage: 6
Contragravity Fuel: Oxidizer

Ship Manufacturer: Consolidated Vultee
Ship Type: Small Colony Ship 12 TU
Ship Name: Vulture
Date Available: 1965
Size in Tons: 4000
Crew: 12
Fuel Tonnage: 3000
Fuel Type: LH Reaction Mass
Cargo Tonnage: 811
Contragravity Fuel: Nuclear

Ship Manufacturer: Boeing Aerospace
Ship Type: Interstellar Long-hauler 12 TU
Ship Name: Starlifter
Date Available: 1969
Size in Tons: 600
Crew: 5
Fuel Tonnage: 450
Fuel Type: LH Reaction Mass
Cargo Tonnage: 97
Contragravity Fuel: Nuclear

Ship Manufacturer: Grumman
Ship Type: Gas-Giant Interstellar Shuttle 8TU
Ship Name: Big Cat
Date Available: 1975
Size in Tons: 12600
Crew: 150
Fuel Tonnage: 7600
Fuel Type: LH Reaction Mass
Cargo Tonnage: 2318
Contragravity Fuel: Nuclear

Ship Manufacturer: Boeing Aerospace
Ship Type: Ion-assist Fast Hauler 12+4 TU
Ship Name: Foxbat
Date Available: 1986
Size in Tons: 2000
Crew: 6
Fuel Tonnage: 1605
Fuel Type: LH Reaction Mass
Cargo Tonnage: 300
Contragravity Fuel: Nuclear

FTL Now Spaceships

Ship Manufacturer: General Atomic
Ship Type: Particle Bed Long Hauler 18 TU
Ship Name: Antares
Date Available: 1991
Size in Tons: 2000
Crew: 6
Fuel Tonnage: 1817
Fuel Type: LH Reaction Mass
Cargo Tonnage: 76
Contragravity Fuel: Nuclear

Ship Manufacturer: Boeing Aerospace
Ship Type: Particle Bed Long-hauler 12 TU
Ship Name: Starlifter II
Date Available: 1992
Size in Tons: 600
Crew: 5
Fuel Tonnage: 450
Fuel Type: LH Reaction Mass
Cargo Tonnage: 97
Contragravity Fuel: Nuclear

Ship Manufacturer: Kris Kraft
Ship Type: Fluidized Bed Cruise Ship 8 TU
Ship Name: StarCruiser
Date Available: 1992
Size in Tons: 150
Crew: 3
Fuel Tonnage: 94
Fuel Type: LH Reaction Mass
Cargo Tonnage: 31
Contragravity Fuel: Nuclear

Ship Manufacturer: General Atomic
Ship Type: Particle Bed Small Colonizer 12 TU
Ship Name: Sunfish
Date Available: 1994
Size in Tons: 10000
Crew: 30
Fuel Tonnage: 7773
Fuel Type: LH Reaction Mass
Cargo Tonnage: 1517
Contragravity Fuel: Nuclear

Ship Manufacturer: Northrop Grumman
Ship Type: F. Bed Scout & Survey 14 TU
Ship Name: AstroCat
Date Available: 1994
Size in Tons: 1000
Crew: 12
Fuel Tonnage: 832
Fuel Type: LH Reaction Mass
Cargo Tonnage: 98
Contragravity Fuel: Nuclear

Ship Manufacturer: McDonnell-Douglas
Ship Type: Fluidized Bed Hauler 16TU
Ship Name: Spectre
Date Available: 1994
Size in Tons: 3000
Crew: 6
Fuel Tonnage: 2625
Fuel Type: LH Reaction Mass
Cargo Tonnage: 262
Contragravity Fuel: Nuclear

Ship Manufacturer: Northrop Grumman
Ship Type: Particle Bed Fighter 12 TU
Ship Name: Black Cat
Date Available: 1995
Size in Tons: 30
Crew: 2
Fuel Tonnage: 23
Fuel Type: LH Reaction Mass
Cargo Tonnage: 1.7
Contragravity Fuel: Nuclear

Ship Manufacturer: Newport News
Ship Type: Mini-Mag Orion Frigate 24 TU
Ship Name: Richard O'Kane
Date Available: 1995
Size in Tons: 1500
Crew: 65
Fuel Tonnage: 932
Fuel Type: Curium 245 pellets
Cargo Tonnage: 298
Contragravity Fuel: Nuclear

Ship Manufacturer: Electric Boat
Ship Type: Mini-Mag Orion Destroyer 24 TU
Ship Name: Arleigh Burke
Date Available: 1997
Size in Tons: 3800
Crew: 200
Fuel Tonnage: 1882
Fuel Type: Curium 245 pellets
Cargo Tonnage: 1423
Contragravity Fuel: Nuclear

Ship Manufacturer: Bath Iron Works
Ship Type: Fluidized Bed Fast Frigate 12 TU
Ship Name: Edward L. Beach
Date Available: 1997
Size in Tons: 1500
Crew: 65
Fuel Tonnage: 1166
Fuel Type: LH Reaction Mass
Cargo Tonnage: 192
Contragravity Fuel: Nuclear

Ship Manufacturer: Boeing
Ship Type: FB Long Distance Trader 16 TU
Ship Name: Long Ranger
Date Available: 1998
Size in Tons: 1200
Crew: 18
Fuel Tonnage: 950
Fuel Type: LH Reaction Mass
Cargo Tonnage: 165
Contragravity Fuel: Nuclear

Ship Manufacturer: Kris Kraft
Ship Type: Particle Bed Star Van 8 TU
Ship Name: Wanderer
Date Available: 1999
Size in Tons: 20
Crew: 5
Fuel Tonnage: 12.5
Fuel Type: LH Reaction Mass
Cargo Tonnage: 0.5
Contragravity Fuel: Nuclear

Ships can be customized with weapons and other modules

List of Weapon Damage Factors (DF)

Ballistic Weapons	**DF.**
KEW Mine (Unguided Kinetic Energy Weapon - i.e. Dumb Rock.)	2
Small Reaction Cannon (Small Rifled cannon which fires unguided shells.)	1 (obsolete)
Medium Reaction Cannon (Medium Rifled cannon which fires unguided shells.)	2 (obsolete)
Large Reaction Cannon (Large Rifled cannon which fires unguided shells.)	3 (obsolete)

Stationary Weapons	**DF.**
Hedgehog Mine (Stationary mine with 10 small IR Guided Missiles)	1 per missile

Rocket-accelerated Weapons	**DF.**
IG/IR Guided Missiles (Missiles guided by Inertial/Infra-Red sensors.)	3
IG/Radar Guided Missiles (Missiles guided by Intertial/Radar.)	3
Frag Rockets (Unguided Rockets usually fired in volleys of 6	1 per rocket

List of Defensive Devices)

Anti- Missile devices	**Good Versus**	**Modifier**	
Flare	IR Guided Missile	-40	
Phalanx Cannon	Any Rocket or Missile	-0	
Corner-Cube Radar Reflector	Radar Guided Missile	-40	
Anti-missile Laser (From 1998)	Any Rocket or Missile	+10	
Ball Bearing Shotgun Canister	Any Rocket or Missile	-20	(obsolete)
ECM (Radar-Jamming)	Radar guided Missile	-20	
Hot Brick Decoy	IR Guided Missiles	-20	

Turrets and Launching Tubes

Turret Type	**Mass**	**Munition Feed**
Single Large Reaction Cannon Turret	20 Tons	Magazine Loaded (obsolete)
Single Medium Reaction Cannon Turret	10 Tons	Magazine Loaded (obsolete)
Double Medium Reaction Cannon Turret	15 Tons	Magazine Loaded (obsolete)
Single Small Reaction Cannon Turret	5 Tons	Magazine Loaded (obsolete)
Double Small Reaction Cannon Turret	7 Tons	Magazine Loaded (obsolete)
Triple Small Reaction Cannon Turret	15 Tons	Magazine Loaded (obsolete)
Frag Rocket Launcher Turret	5 Tons	Single Use - Included
Shotgun Canister Launcher Turret	5 Tons	Single Use - Included (obsolete)
Missile Launching Tube	10 Tons	Magazine Loaded
Phalanx Turret	5 Tons	3 Uses - Included
Flare Launch Tube	1 Ton	Single Use - Included
CC Radar Reflector launch Tube	1 Ton	Single Use - Included
Defensive Laser Turret	3 Tons	Energy Weapon - Multiple Use

Fixed mounts

Weapon Type	**Mass**	**Munition Feed**
Large Reaction Cannon	5 Tons	Magazine Loaded (obsolete)
Medium Reaction Cannon	3 Tons	Magazine Loaded (obsolete)
Small Reaction Cannon	1 Ton	Magazine Loaded (obsolete)
Frag Rocket Launching Rails	2 Tons	Single Use - Included

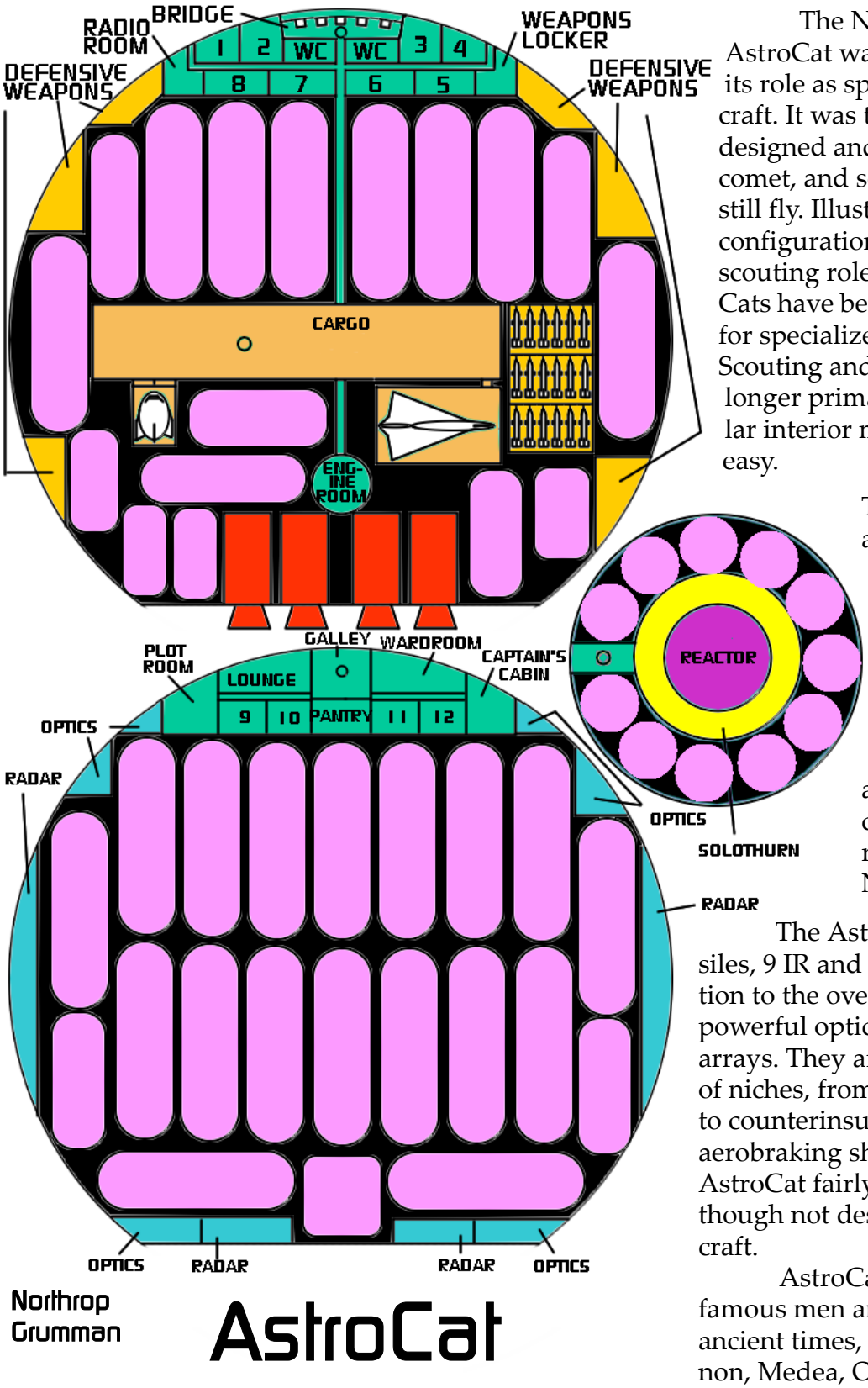
Magazine Loaders

Munition Type	Mass per shot held
Large Reaction Cannon	.5 Ton (obsolete)
Medium Reaction Cannon	.25 Ton (obsolete)
Small Reaction Cannon	.1 Ton (obsolete)
Missile	1 Ton

Notes:
You need one magazine feed per weapon. A triple small reaction cannon turret would need 3 small reaction cannon magazines.
Frag Rocket turrets and rails and Shotgun Canister turrets are single use. Once the munition loaded into the device is used, it can't be reloaded in combat.
Any Reaction Cannon is at -20 to hit.

Other Modules - Base ship contains cabins and Life Support for standard crew

Module	Description	Tonnage
Passenger Cabins	Cabin for 4 passengers, includes boosted Life Support as required.	5 Tons
Extra WC	WC (Bathroom & Zero-G Shower) for 16 people	5 Tons
Big Freezer	Frozen food supply for 24 people for 30 days	3 Tons
Big Galley	Galley for 32 people	8 Tons
Big Pantry	Pantry for storing dry goods for 16 people for 30 days	5 Tons
Brig	Hold for 4 prisoners, with bars and Zero-G WC	5 Tons
Luxury Cabin	Cabin for 2 passengers includes boosted Life Support and Zero-G WC	5 Tons
Luggage Room	Space for storage of luggage for 16 passengers	5 Tons
Ship's Bay	Enclosure for carried vessels. Allows access from inside the craft. Tonnage of the Bay includes the carried vessel - a 20 ton fighter fits in a 24 ton bay.	1.2 * carried vessel
Hydroponic Section	Area for intensive cultivation of fresh vegetables. feeds 5 people per day per ton indefinitely.	1 ton per 5 people per day
Weapons Locker	Secure area for safe stowage of weapons	0.5 tons
Armor	Cuts damage from attacks	0.05 tons*tonnage protected per factor

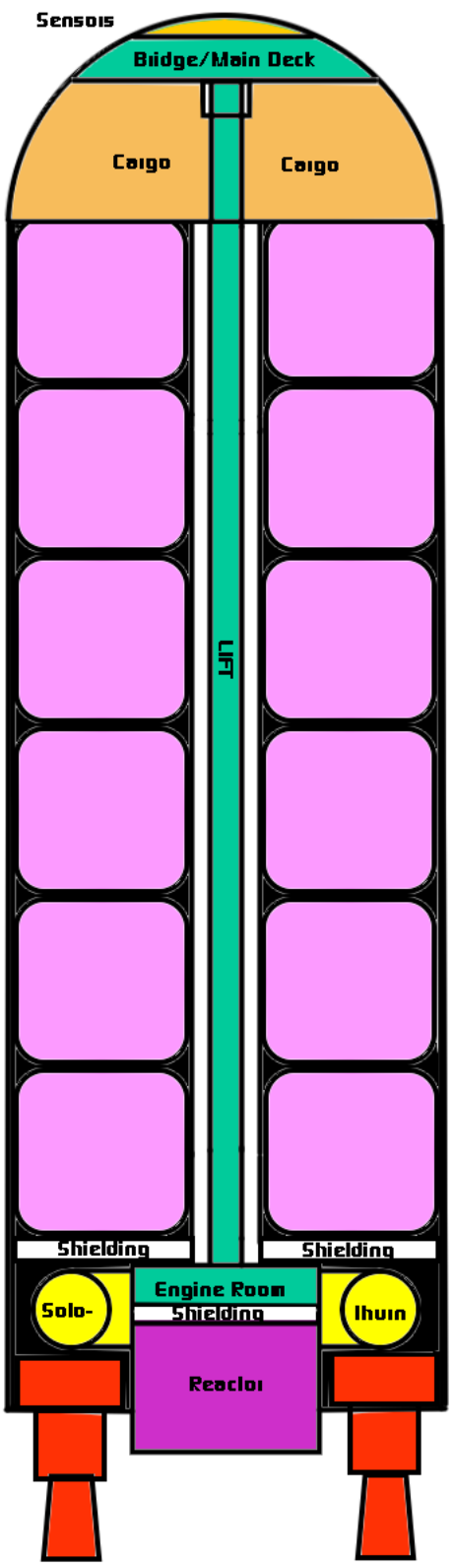


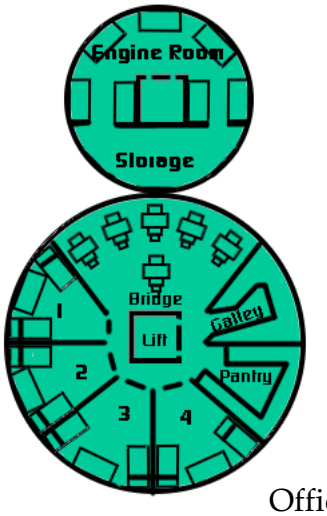
The Northrop-Grumman AstroCat was very successful in its role as specialized scouting craft. It was the last scout craft designed and built before the 911 comet, and some forty AstroCats still fly. Illustrated is the default configuration - optimized for its scouting role - but many Astro-Cats have been changed radically for specialized purposes, as Scouting and Surveying are no longer primary roles. The modular interior makes such changes easy.

The AstroCat carries a landing craft, as the Cat is too large to comfortably land on planet. The 20 ton landing craft is a Contragrav boat powered by a super-conducting battery, able to haul 15 tons of cargo. The other carried craft is a 30 ton NG Black Cat fighter.

The AstroCat carries 18 missiles, 9 IR and 9 RADAR, in addition to the overly large and powerful optical and RADAR arrays. They are useful in a variety of niches, from dropping off spies to counterinsurgency. The slippery, aerobraking shape makes the AstroCat fairly RADAR stealthy, though not designed as a stealth craft.

AstroCats are named for famous men and women from ancient times, such as Agamemnon, Medea, Octavius and Asoka.





The Boeing Long Ranger was a very popular freighter in the years just before the 911 catastrophe. The Long Ranger has the range to get to almost all colonies without refueling, giving the Long Ranger a big boost in time to market.

Boeing brought the Long Ranger to market at the height of the Extrasolar Bubble. There were many pre-orders, and Boeing made a very substantial profit on the design.

Officially called the Boeing Model 815, the Long Ranger's nickname reflects its function, to get goods to the farthest market in the shortest possible time. The Long Ranger is not atmospherically capable, and must off load at a station or use some of its cargo capacity to carry a lighter or cargo shuttle.

Many Long Rangers have been adapted to passenger service, with passenger decks replacing the huge cargo deck of the standard model. A varying proportion of passenger vs. cargo space is available, and varying quality of state-rooms. Some conversions were done as aftermarket adaptations, while others were done by Boeing as part of the original purchase configuration.

The bridge layout is innovative, with the six control couches laid flat and the instrumentation suspended over them on cantilevered arms. The crew space is laid out for eighteen crew members in the default configuration, with five bunks in cabins 3 and 4, and four in 1 and 2, allowing for three full crews of six. Many freighters, however run with smaller crews, and use the extra crew space for passengers and small cargo items.

There were over 50 Long Rangers built before the 911 tragedy, and several more were partly built when the comet hit and completed before the circumstances forced closing of the Boeing production line. All the Long Rangers built are currently in service somewhere in the Oikumene.

BOEING
LONG RANGER

Friday, April 6th, 2001

It was hard to tell if the lonely bulb on the ceiling was coloured red or if it only looked that way because of the blood in his eyes. He wondered about it every time they brought him here. He'd known, once.

He heard the screams of some poor bastard down the hall and mouthed a silent prayer for him. Whoever he was, he'd need every bit of goodwill he could get. It sounded like his session had gone on a while. The screams would change while they worked on you, like they were peeling you away layer by layer, until you were screaming from your soul. Robert knew the feeling.

They took him off the iron throne, sprayed some antiseptics on his cuts, and threw him back into his cell. It was the same ritual every seven days. Robert decided to call it 'sunday', and tried to use it to measure how long he'd been in here. He still couldn't remember. So he resorted to watching the mould grow in one of the corners, which gave him a rough estimate at best, but it still amused him.

The whip scars burned all across his back, warm blood trickling down his spine, but he didn't dare take off the grubby tunic they let him wear. He didn't want to see. Crawling to his personal pile of straw, he lay down on his belly and gave himself to the non-being somewhere between sleep and death. He'd practiced hard at it. Minutes, hours, weeks could pass and he wouldn't even notice unless someone opened his door.

Which someone did. Robert blinked, roused himself from his coma, didn't even think. The only thing that could be happening now was meal time. Of course he used the word 'meal' in its absolute loosest sense, though he'd probably had worse from street vendors in India. Just a spot of dysentery and one poleaxed vacation. "Look on the bright side," his then-wife had told him.

Well, it was better than being tortured. Slightly.

His mind had already wandered through three forgotten anecdotes when he realised they were carrying him out of the cell. He blinked, still groggy and confused, and cried out in surprise as hot water splashed his face. A shower! Hot running water, so long an unremembered dream, he barely recognised it. He watched it rolling off him, turning into black slurry by the time it washed down the drain.

They put him in a chair and shaved him. They fed him a hot meal, so rich it made him sick to his stomach, but he choked it down anyway. Afterwards, he couldn't even tell what it had been. He hadn't bothered to look or taste.

He looked up warily as a bearded Arab man entered the room, wearing plain concrete-grey robes and a turban. He sat down at the table opposite Robert, smiling all the time. It was only when he leaned close that Robert recognised him -- the team leader who'd caught him on Saif. A sudden surge of hate roared through his muscles, a ferocity he thought he'd lost forever, and for a moment he almost lunged across the table . . . but there would be guns waiting. Always guns.

The man laughed softly as he saw Robert twitch. "Calmly now, Mr. Mercer," he said in Arabic, his voice sweet as honey, like a venus fly trap. "You wouldn't want to start any trouble when I have such good news for you. For old friends' sake."

Robert stared out from under heavy, sullen eyelids, trying to remember how to speak. His eyes had that glazed look, like something indefinable had been stomped out of them.

"I'm here to tell you," the man continued, "that you're free to go. It's been decided that you have paid your dues. We are leaving these facilities for Earth tomorrow morning, and we shall be taking you with us, to be released upon our arrival."

"Saif," Robert said. "Need to go . . . Saif. My wife."

"I'm afraid you'll have to arrange transport from Earth, then. Our ship doesn't make stops."

"Make my own way then."

The man clucked reproachfully. "Oh no, we couldn't do that . . . And you wouldn't want to refuse our hospitality, would you?"

"Knew it," Robert sniffed. "It's a trick."

"Honestly, Mr. Mercer," the man sighed. "Whatever you think we might put you through, do you honestly believe it could be worse than this?" He shrugged. "I needn't even try to persuade you, we have many men who are not as quick to forgive your past transgressions and who do not oppose the use of force. But I would like you to go without a fuss."

"Why?"

"Just to make your trip as pleasant as possible," the man promised. He placed his hands flat on the table and smiled brightly. "I guess I'd better let you get packing."

MARS, THE MOON, AND THE SOLAR SYSTEM

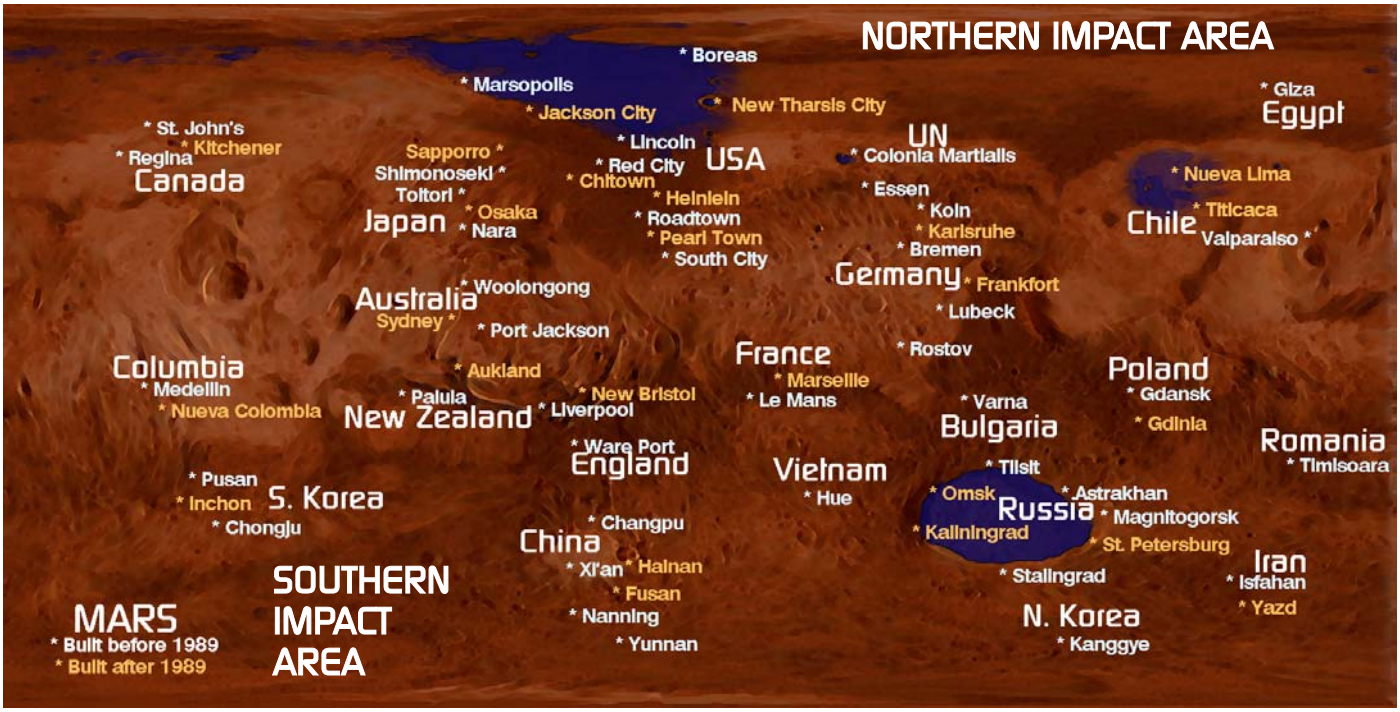
Mars

Mars has grown greatly in population since the Cold Space Era. By 2001, over 2 million people called the Red Planet home. A great number of refugees from Earth after that date pushed the population to 3.3 million by the middle of 2002. Mostly refugee habitats were built around the already existing cities of Mars, but several new cities were constructed primarily for refugees.

The US and Russian colonies grew the fastest, lying as both did near the new seas of Mars. These seas were the product of comet bombardment in the Boreal Plain in the north and Aonia Terra in the south, and the warming due to release of greenhouse gasses and orbital mirrors. Mars is well on its way to terraforming.

The surface air pressure on Mars is now at 160 millibars, due to the warming and cometary bombardment, and the temperature is averaging -20 C, both far above the initial pressures and temperatures the original settlers encountered. More than fifty years of terraforming were paying great dividends.

Farming was a great success on Mars, once salt and metal leaching techniques, combined with highly tolerant plant breeding, had matured to the necessary level of mastery. Just in time, for Mars was able to export enough food to feed the millions of Earth refugees that flooded the Solar System, in addition to taking on more than her own fair share.

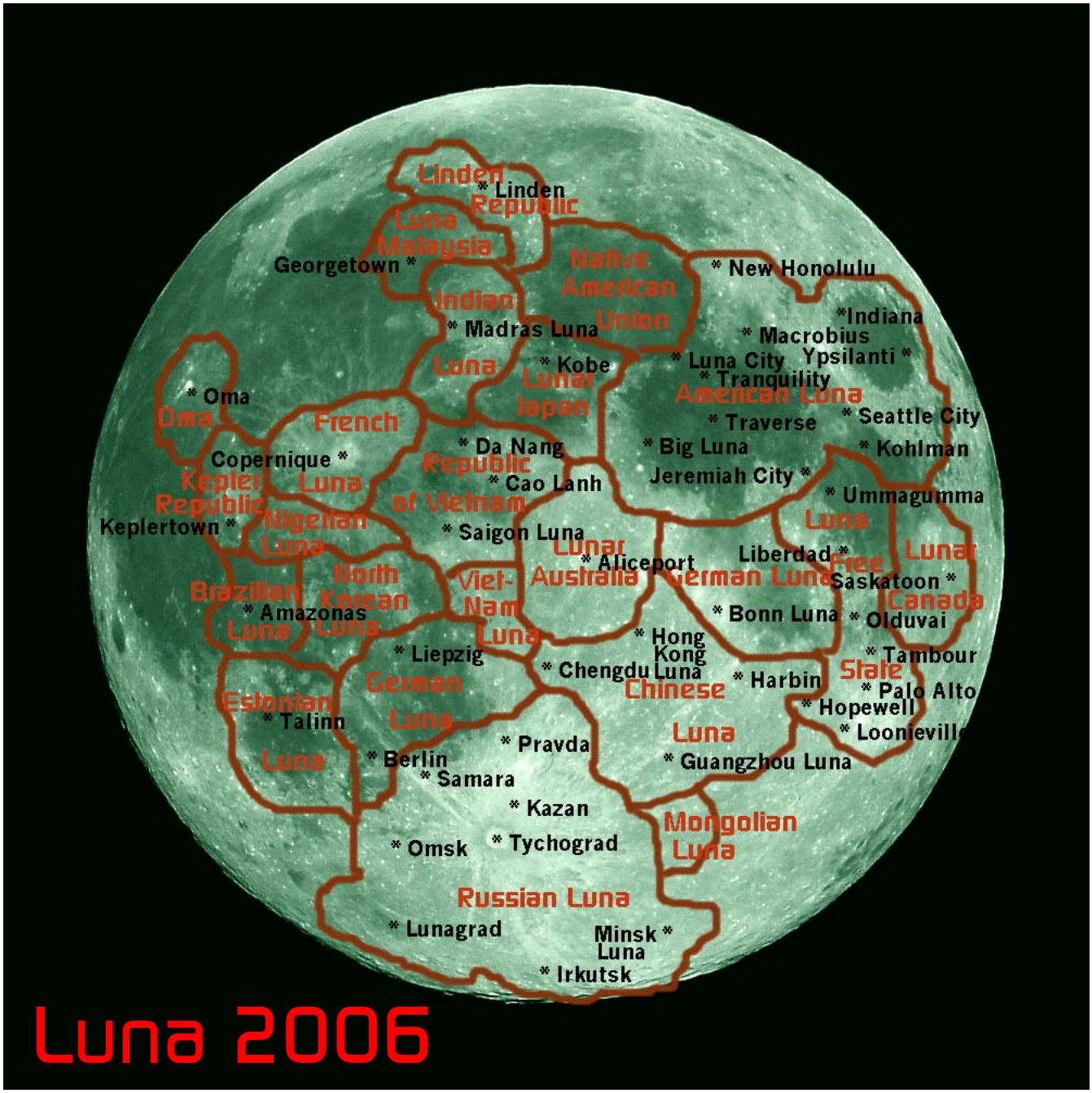


The Belt

The Belt has some 1,500,000 citizens, all operating under charter from the UN. The Big Four asteroids have the largest populations, but there are many, many rocks settled by small groups, down to family size. Most settled asteroids are tumbled for spin gravity, with the odd effect that the asteroid seems to be overhead all the time.

The Big Four asteroids have fallen on hard times, without Earth tourists to siphon money from in the casinos and other tourist traps. The Belters come in with mining money to blow on good times, but many casinos are closed or converted into rougher entertainment palaces. The effective anarchy of the Belt - as the UN has never been good at policing it - has soured somewhat with the loss of tourist dollars. Luckily the Rocket Corps and the Russian Space Service still stop there for liberties.

The Moon



The 5 million or so Lunarians - there are no good censuses, and few reliable estimations - are the middlemen between the Lagrange Point habitats and stations and the rest of the Oikumene. Outer-system and Extra-Solar cargo is transhipped here, and the few people crossing either way go through Luna. This puts the Lunarians in an odd 'neither fish nor fowl' position. Fully trusted by neither, yet indispensable to either.

The big lunar states are American Luna - a state of the USA, Russian Luna - an autonomous region of the Russian Federation, Chinese Luna - still a colony, and the Lunar Free State - perhaps the largest trading nation in the Solar system and a formidable force in the Oikumene. It is certainly the largest independent nation on the moon, followed by the Republic of Vietnam.

German Luna is composed of the former East and West German colonies, and is thus in two widely separated places. The Kepler Republic, The Linden Republic, and Oma are also independent nations, following the break-away Lunar Free State's lead, though none have yet prospered to the extent that the LFS has.

The Native American Union is led by a group of activists wanting their own land, but the concept encountered resistance among tribal groups to moving away from Earth, as well as lack of commonalities between tribes. The settlements are small and not as thriving as they perhaps should be.

The Lunar Colonies are restive under the calm surface. They have little in common with Earth, and they mostly ignore the impotent laws sent their way by their Earth masters, yet they have helped Earth considerably after the horrific happenings of 9/11, and there is still considerable sympathy for Earth. Still, agitation for freedom from Earth is growing in many of the colonies.

The Outer Worlds

Ganymede

The former Soviet colony of Ganymede is now under UN control. The 420,000 Ganymedians are prospering as a 'gas station' for non-US ships using the Jupiter slingshot to save on boost. Ganymede also the home port for the fleets of Gas Giant Shuttles which only boost between gas giants in to ferry goods and people cheaply between systems.

Callisto

Callisto is the most populous world in the outer solar system, with 750,000 inhabitants. Callisto has a major Rocket Corps base, with a big repair yard, and an abundance of water ice for intensive farming. The population has swelled since 9/11 with refugees from Earth, most of whom live and work in the capital, Valhalla. Callisto is the most usual 'gas station' for US ships, and like Ganymede, anchors a fleet of Gas Giant Shuttles.

Elara

The small former Soviet colony of Elara allied itself with the Oikumene nation of Refuge soon after the discovery of that system. it is now the only point where the isolationist communist nation and the rest of the Oikumene meet. As such, the tiny moon is a hotbed of intrigue, and most of it's population of 65,000 are not citizens.

Thebe

Thebe is a small world, with a single purpose, running a fleet of contragravity ships which dip into Jupiter's outer atmosphere for hydrogen and other gasses. These gasses are separated and purified on Thebe in the Refinery, and the gasses either ferried to Callisto or sold directly to waiting ships. Most of the population of 15,000 work either on the ships or in the Refinery.

Tethys

Tethys is a world-ocean, covered in water ice. The settlements are dug into the ice, which is mined and melted, and converted into hydrogen and oxygen. The largest settlement is Ithaca along the giant Ithaca Chasm. Some 5,000 people live on Tethys.

Calypso

Little Calypso is the main 'Gas Station' for Saturn. Some ships use Saturn for slingshot acceleration and braking to and from the Oikumene, but most ships coming here are specifically coming to Saturn and returning. Like Thebe in the Jupiter system, a small fleet of contragrav tankers mines Saturn's upper atmosphere for gasses, which are processed in a refinery. Some 2500 people live on Calypso.

Titan Station

Titan Station orbits the huge orange world of Titan, with attendant micro and zero gravity factories nearby. There are many scientific missions operating out of the station, exploring this fascinating moon, and the station is the largest colony in the Saturn system, with 150,000 people.

Rhea

Rhea was settled from Mars and the moon, unlike most of the outer moons. Some families on Mars decided it was getting too crowded, and wanted to get away from the crowd. Using techniques pioneered on Luna and Mars, some 3000 people currently live here.

Dione

The 60.000 settlers on Dione are mostly criminal refugees from Earth who were sentenced to pioneering work here. Many have worked off their sentences but elected to stay.

The Lagrange Habitats and Earth Orbitals

There are dozens of space stations, orbitals and habitats, located in various places around the Solar system. Something over half a million people live in Earth-centered orbitals and habitats.Orbitals orbit a larger body, while habitats are usually located at various Lagrange points. They serve in some respects like micro-colonies in the Oikumene - places for those dissatisfied with Earthly life to live in a less structured, ordered manner.

Some of the more interesting are listed here.

Gateway

Gateway is the major USA Civilian Space Station in Earth Orbit. Located in Geosynchronous orbit over the Pacific, 500 km west of Equador, Gateway is accessible from most of the southern US. The station has zero-G spindle with multiple rotating spoked rings. Gateway has a Post 911 population of 25,000 - twice it's original capacity. Each population expansion has necessitated adding a ring. Gateway now has 4 rings, rotating to give 0.6g.

The SPS "Construction Shacks"

The 12 SPS "Construction Shacks:" lifted to orbit in the early '90s have been given over to permanent in space populations. Mostly inhabited by refugees, the Construction Shacks are rotating disk-shaped structures, with multiple levels, giving varying levels of pseudo-G ranging from 0.5g to 0.75g. The centers of the disks are given over to solar power panels and ion maneuvering thrusters. Each CS, numbered 1 through 12, accommodates 12,500 people.

Amazonia

Amazonia is a Null-G habitat located at Earth-Moon L5. It is occupied by a group of militant lesbian separatists, who purchase sperm for artificial insemination from commercial sperm banks. Amazonians combat muscle and bone loss with time in high-G centrifuges. They are self sufficient in food and power. Amazonia's population is estimated at about 10,000

The Junkyard

The Junkyard is a collection of Null-G habitats made from space junk clustered around a small 0.5g rotating cylinder called the Cathedral. The micro-habitats house the population, which take turns inside the Cathedral, moving in for two months per year. The Junkyard is located at the Earth-moon L4 point, and houses some 10,000 people.

The Can

The Can is an enormous agricultural habitat shaped like a 5 km diameter coffee can, 7.5 km long, with strips of windows in four places along its length, located geosynchronous orbit over the South Atlantic. The Can rotates on its axis to provide 0.6g. The interior is filled with air, and food plants and animals are grown on it's inner surface. The Can trades its excess food for garbage and water. Some 1500 people live in The Can

Kangaroo Trojan

Kangaroo Trojan is the Australian-run CCS military base located at Earth-Sol L4. The base is a multiple wheel structure like Gateway, with three wheels. Kangaroo Trojan is a secure facility, and affords a secure base for CCS operations. Some 20,000 people live in Kangaroo Trojan.

UN Orbital

The UN Orbital is the headquarters of the UN organization, located in geosynchronous orbit over the Indian Ocean. The UN administers the various Charter Colonies, the major asteroids, several Solar system moons, and some ex-Soviet colonies. It is the major point of contact between Earth-centered and extrasolar Oikumene culture, and as such is a hotbed of intrigue. Some 50,000 people live on UN Orbital.

High Brazil

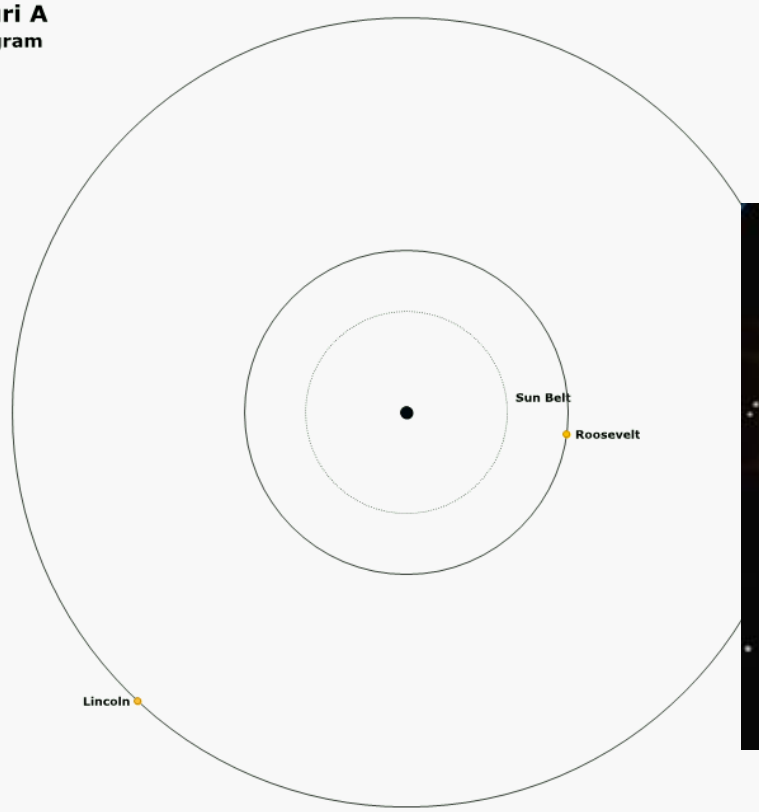
High Brasil was the Brazilian SPS "Construction Shack", now given over to the SAU Space Force. The Orbital, located in geosynchronous orbit over the Manaus, protects and administers the SAU Extrasolar Charter Colonies and Mars-Moon colonies. Some 15,000 poeple call High Brazil home.

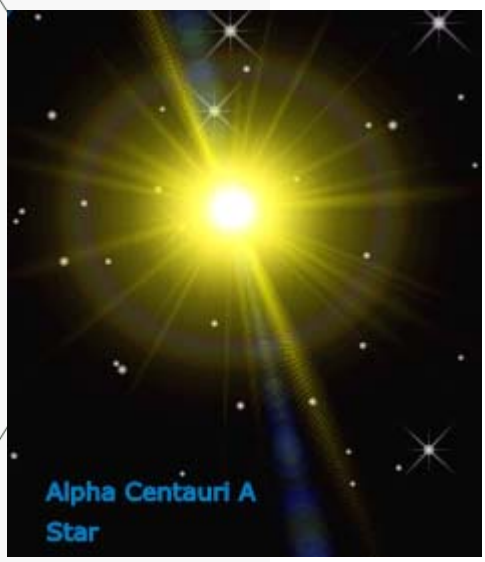
The Roof of Heaven

The Roof of Heaven was the PRC SPS Construction Shack, which evolved into the PRC Space Service headquarters. The habitat is the major PRC space military base as well as the civilian port of call for SPS colonial shipping. Some 25,000 people live in the Roof of Heaven.

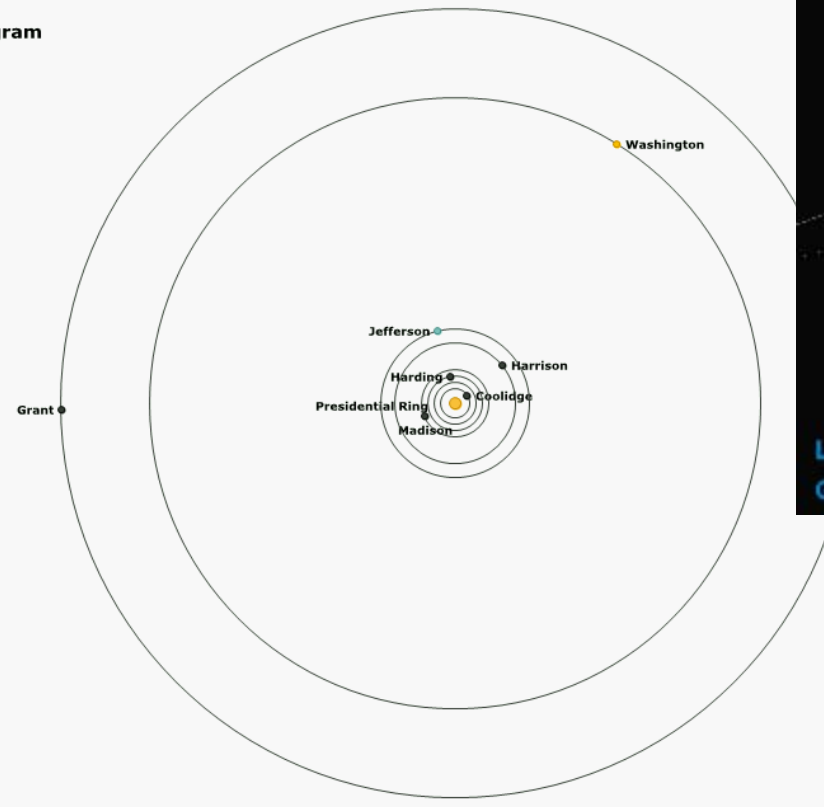
The Worlds

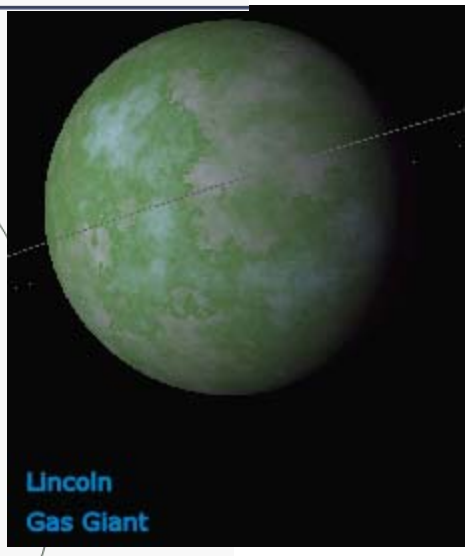
Alpha Centauri A
Star System Diagram



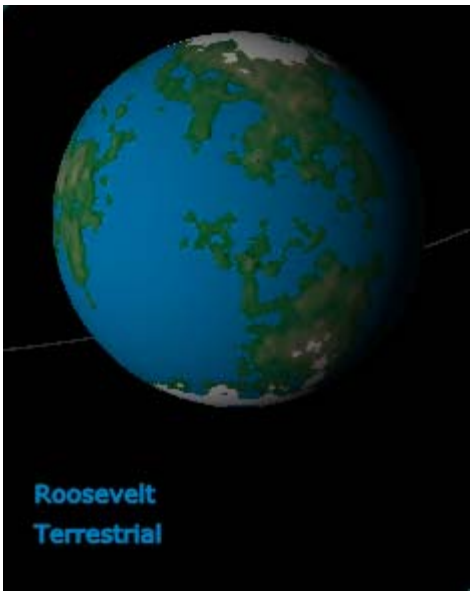


Lincoln
System Diagram





Roosevelt



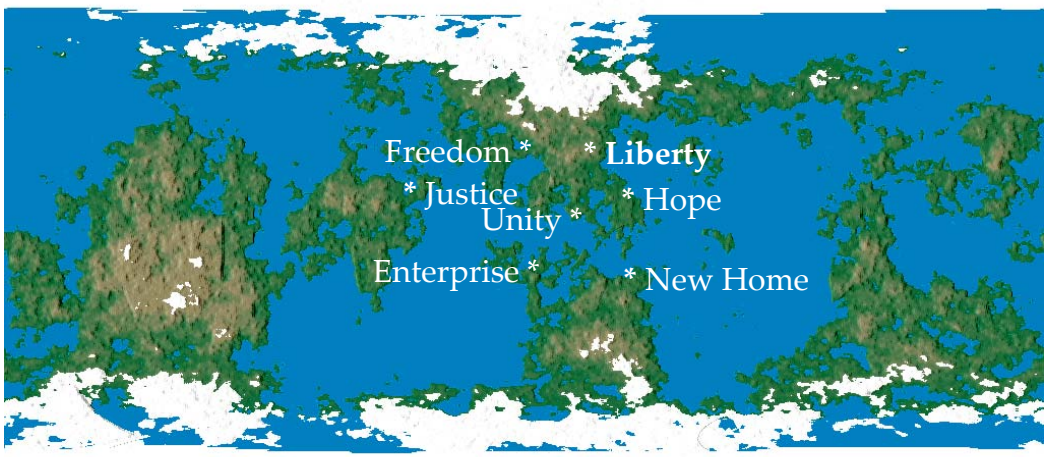
Orbit Number: 1
Temperature: Extraordinarily Earthlike
Gravity: 20% higher than Earth. Things gain 1 lb/kg for every 5 lbs/kgs.
Atmosphere: Somewhat thicker than Earth's, with more oxygen at a higher partial pressure, less nitrogen, and much more argon. Certainly breathable and somewhat euphoric.
Native Life: Lots. Many different types and species, some similar to Earth life, and some not. Some incompatibilities with proteins, leading to allergic reactions.
Minerals: Somewhat richer in heavy elements than Earth is, but not remarkably so.
Habitability: Close to optimal.
Population: 610,000
Distance from Sol: 4.4 LY

From "Fidelis' Guide to the Oikumene" - 2001 Edition

Roosevelt is a pretty world, like Earth, but cleaner and purer. Be prepared to do some nature sightseeing! I recommend Josephson's Guide Service - the guides are helpful, knowledgeable, and personable, and the service is not expensive. Most of their guides are college students at New Harvard and know their stuff.

The hotels clustering around the spaceport are generic and boring. For the real flavor of old Liberty, try the Matthew Inn on Broad Street. A big, rambling, three-story early colonial structure, the inn is cozy and comfortable, and the food exquisite. Try the All-Native menu, which only contains native foods prepared in authentic Roosevelt style.

Enterprise is a wealthy city, the center of car production in the Oikumene, with Subaru, Ford, Rover, and GM maintaining plants here. Life is comfortable and easy, and the people are friendly and open. The Disney and Paramount studios in Justice make that town the new Hollywood of the Oikumene. Land values are skyrocketing. The bustling tropical resort area near Hope pulls in many visitors, not just from Roosevelt, but from less fortunate worlds.



Washington

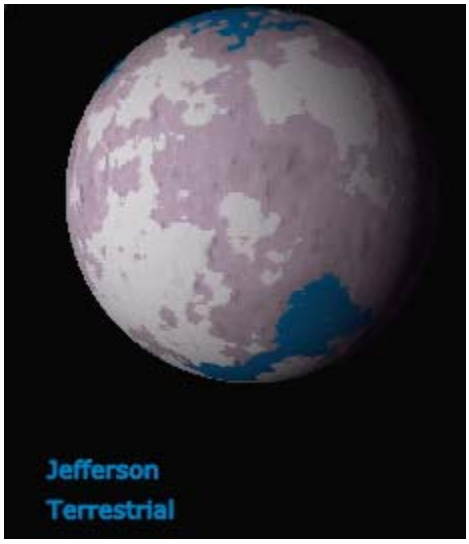
Orbit Number: 2 (Moon of Lincoln)
Temperature: Extremely hot. 345 K is 69 C is 155 F. Only the polar areas are habitable.
Gravity: Somewhat light - Lose 1.5 lbs/kgs in 10.
Atmosphere: Almost Earth-like pressure with more oxygen, less nitrogen, too much CO2 and nasty volcanic sulphur compounds. Gas mask and CO2 scrubbers needed.
Native Life: Sparse and primitive vegetation.
Minerals: Volcanic minerals are common.
Habitability: Marginal, but possible.
Population: 195,000
Distance from Sol: 4.4 LY

Email from Eamo Guitierrez to his mother on Earth - 2002

When I first got here, I wrote you that Jonesboro was hell, pure and simple, but I was wrong. I've been in Diamond Town the last four months, and THAT is hell. The temperature never went below 110 degrees F the whole time, and the sulphur small from the volcanoes made food taste horrid. I lost 30 pounds working in the mines, even though they gave us plenty of water for hydration. The good part is, I made enough money in those four months to last three years up here.

Now I'm back in the north, in Fire Hills this time, I find I can't smell the sulphur any more, and the climate up here seems cool and moderate. The old timers said it would be this way and it is. You get used to it. We'll never get much in the way of tourists here, but it's not that bad a place. There's talk here of building up the south polar regions, like they have in the north, but know one knows when the refugees will stop. Is Amarillo getting swamped with refugees from the north? I know the colonies are taking all they can. There's a group recruiting for volunteers to go back to the bad places on Earth. Call themselves Angels. I'm thinking about it.

Jefferson



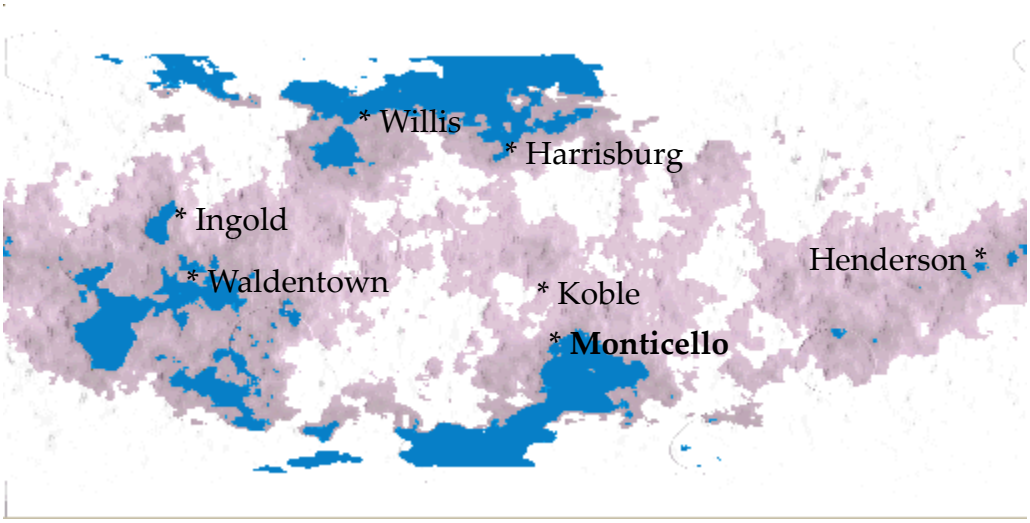
Orbit Number: 2 (Moon of Lincoln)
Temperature: Cool, but not cold. Median temperature is 9 C, 50 F
Gravity: Light - seven tenth's Earth's gravity.
Atmosphere: Somewhat thin, with a huge amount of argon and very little nitrogen. Fertilizer is needed. Water is scarce except around the big salt seas.
Native Life: Sparse and primitive vegetation, reptile-forms on land. Nothing native is edible due to incompatible proteins and left-handed sugars.
Minerals: Above average mineral deposits.
Habitability: Fair, but far from optimal.
Population: 550,000
Distance from Sol: 4.4 LY

From "Fidelis' Guide to the Oikumene" - 2001 Edition

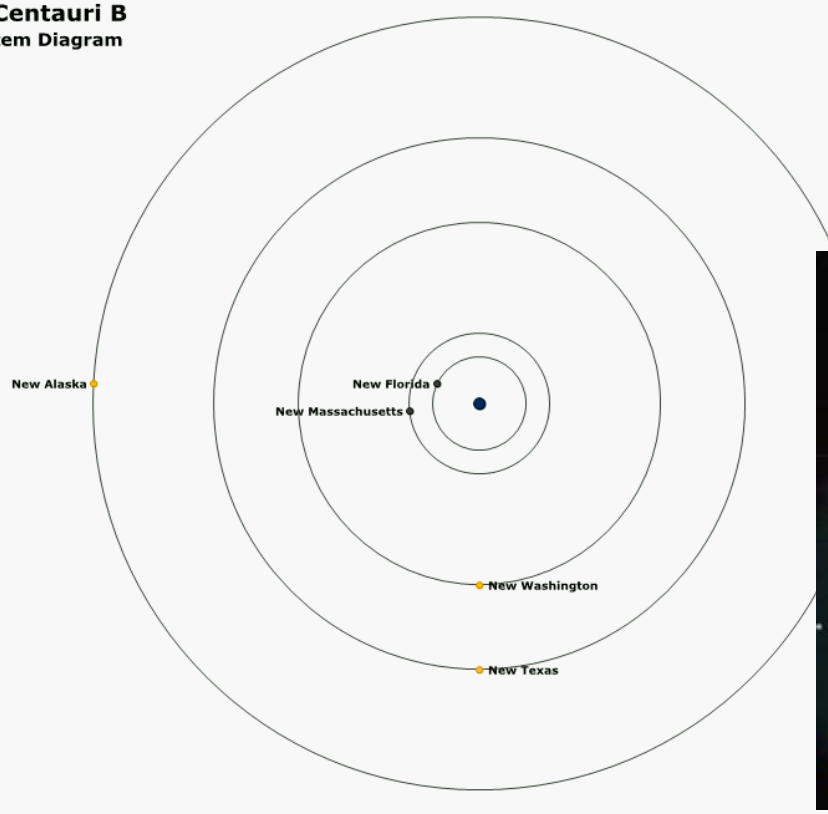
Waldentown is a new town, founded less than 20 years ago, but it is growing fast. The cool but constant and moderate climate is delightful, and they built the town to cater to tourists. The small spaceport is well appointed, and the cluster of upscale hotels is wisely sited to take advantage of the magnificent vistas across the Leopold Sea to the south and the densely forested hills to the north. Earth life has really taken to Jefferson once they got the nitrogen-fixing problem licked.

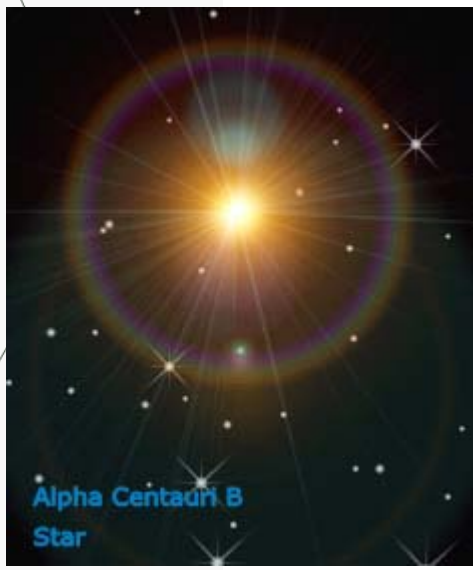
Henderson is a million miles from nowhere, an oil boomtown crowded with drillmen and wildcatters. Housing space is not keeping up with the population growth, but more and more people crowd in for a share of the wealth. Like all boomtowns, Henderson is raw, rough, and dangerous. 35 people were murdered in the town last year.

Monticello is the capital and largest city, with 45,000 people. The land nearby is fertile and covered with farms stretching up the river towards Koble. International Harvester has a big plant just outside Monticello, in Germantown, where tractors are manufactured. Texas Instruments and Hewlett Packard also have large manufacturing plants here.

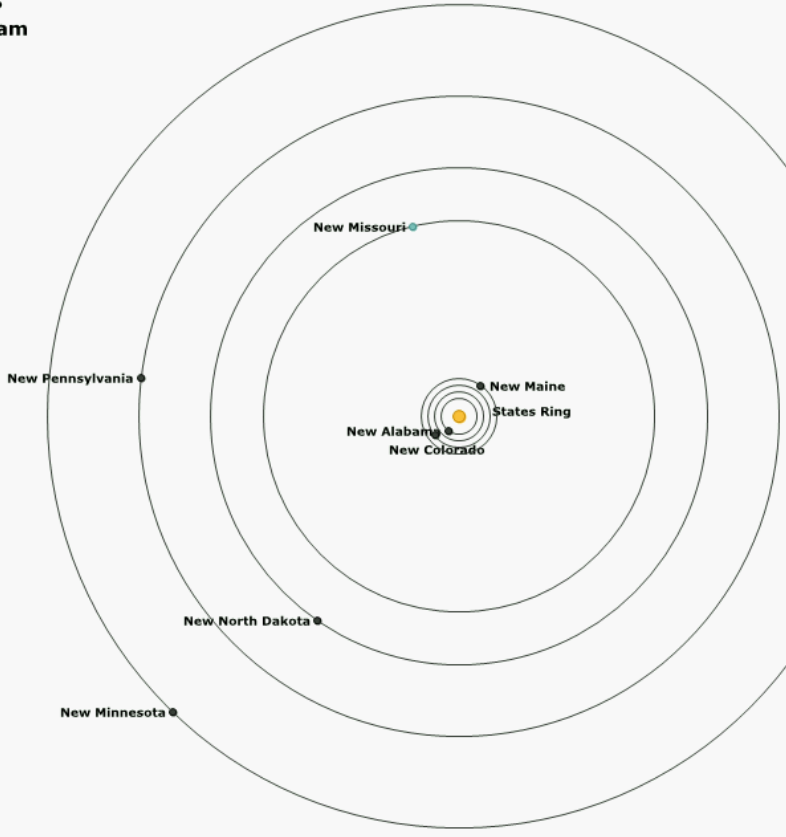


Alpha Centauri B
Star System Diagram





New Texas
System Diagram



New Washington

Orbit Number: 3
Temperature: Hot and moist.
Gravity: Very light - a third of Earth's.
Atmosphere: Thin - about the pressure of Earth's on top of Mt. Everest. Respirators are required.
Native Life: Sparse animals and vegetation, mostly unlike Earth types.
Minerals: Rich in many metals.
Habitability: Fair.
Population: 133,000
Distance from Sol: 4.4 LY

From a letter by Thomas Heyward to his Fiancee Jillian Simmons on Earth, June 2000.

You wouldn't believe this place, Jill! It's like someplace deep in the Congo even here in Holly, which would be on Antarctica if this was Earth. The jungle outside my window here is about half native plants and half Earth plants. There's a little bird-like thing about the size of my thumb sucking nectar from the bouganvillea for all the world like a hummingbird. Up in the hangman tree, I can see a family of boogles building their nest-house, weaving the thatch in alternating blue and gold stripes. It's surreal. I can't wait for you to see it.

Holly's a new town, on a big island in the southern ocean. The ocean breezes keep things cooler than most places on this world. Wearing the respirators is a pain, but you'll get used to it. One thing you won't get used to is the size of the New Washingtonians. I come up to their chests if I'm lucky. The kids born here are all ridiculously tall. Thing is, compared to an Earthman like myself, they're weak. Their muscles don't get a lot of resistance on this little world to get a good work out. Otherwise they'd be awesome basketball players. I guess our kids, if we ever have any, would be tall, anyways.

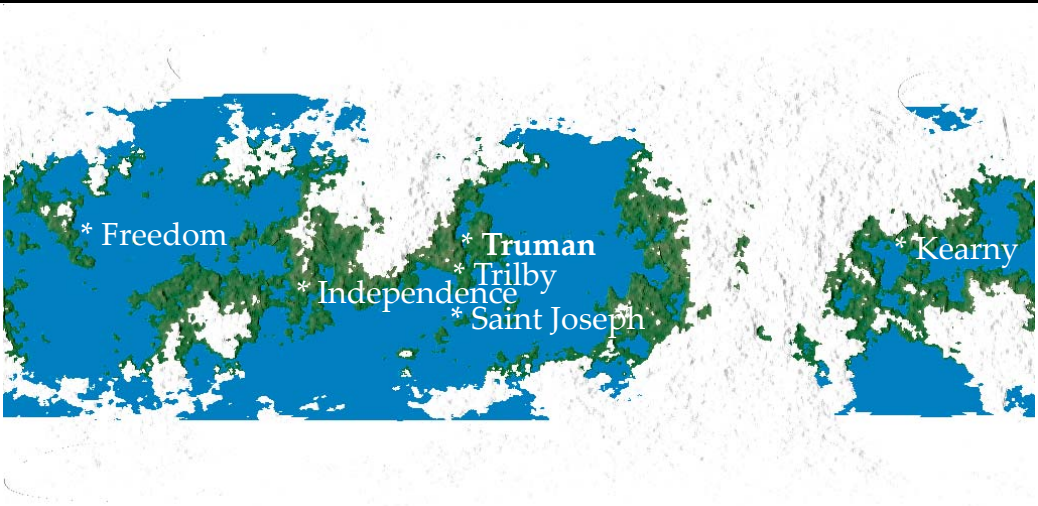
New Missouri

Orbit Number: 4 (moon of New Texas)
Temperature: Cool to cold, undergoing glaciation. Tropics are temperate.
Gravity: 20% lighter than Earth. One lb/kg less per 5 lbs/kgs
Atmosphere: Slightly thin, but with a lot of oxygen. Fire hazards with some normally non-flammable materials. Nitrogen is sparse. Crops require lavish fertilizer.
Native Life: Abundant and varied, mostly Earth-like in form. Some allergen problems.
Minerals: Rich and lucrative.
Habitability: Good, especially in the tropics.
Population: 130,000
Distance from Sol: 4.4 LY

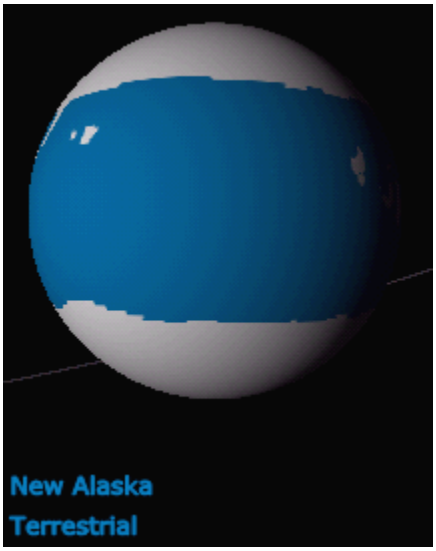
From an email from Desiree Maldonaldo to her brother Jeffrey, April 2001

Thing is, Jeff, the snow crabbers are a tough lot. You really think you can keep up with 'em? They ride their snowmobiles up on the glaciers for weeks on end, in weather that'd freeze you solid. They hunt those big things with harpoon rifles. Once they get one staked down, they have to rush up and cut the trunk nerve through a joint in the carapace to immobilize them before they drag 'em down to town, otherwise, those big ol' claws snip off limbs like scissors through paper. I know your book makes it all seem romantic, and they make big money, but is it worth it? Think about it before you join up.

How was your trip to old Independence spaceport? I hear the Rocket Corps is pulling out from their base for cost cutting reasons, so you're lucky to have gotten there before it all disappears. There's a web site with info on the big manufacturing complex going up when the RC leaves. I mean, yeah, the RC is cool an' all, but what reason do they have to exist anymore? The Soviets are gone, an' Refuge just wants to be left alone. Who cares? Like Dad says, they ought to get a clue and realize their time is over. We really needed them in the old days, but with the New Universal Order, they're just anachronisms.



New Alaska



Orbit Number: 4
Temperature: Cold. Even tropics are cold.
Gravity: Heavy gravity. 10 lbs/kgs gain 7 lbs/kgs.
Atmosphere: Thick and oxygen rich.
Native Life: Aquatic flora and fish-type fauna. Most fauna have allergenic properties, though flora is in the main edible.
Minerals: None.
Habitability: Marginal at best.
Population: 51,000
Distance from Sol: 4.4 LY

From the Wahoo Crier, January 2000

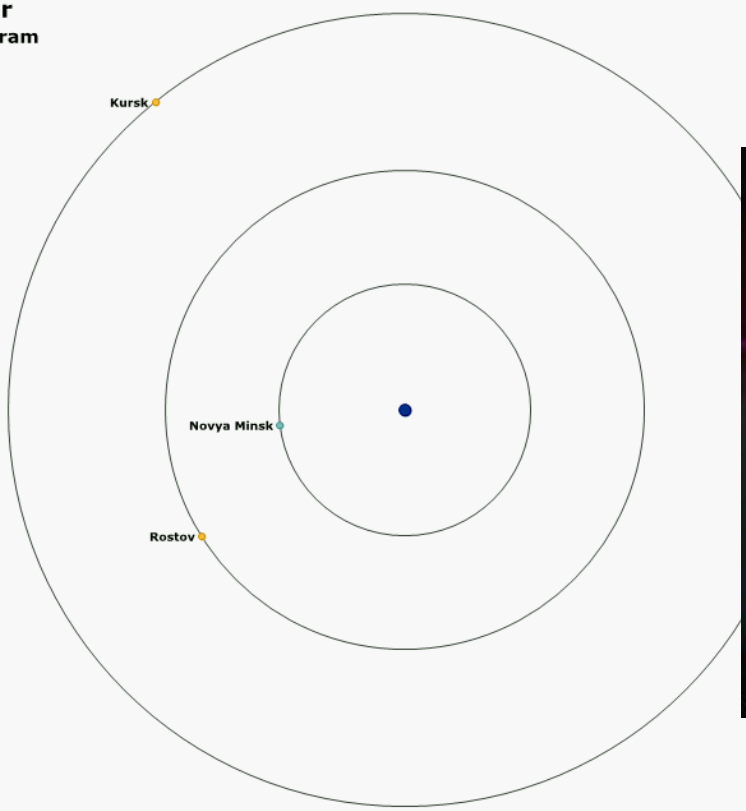
The trial of environmental terrorist Euben Harris ground to a finish yesterday as the 32 year old Earth native was sentenced to death for destruction of the Jinnison Oil micro-platform last July. Harris showed no remorse as the jury handed down it's verdict, calling everyone in the court "dupes of the speciecidal interests" who are "destroying an entire planetary ecology for the sake of a new place to fish." His public defender, Gary Inman, called Harris a "martyr to the Eco-movement."

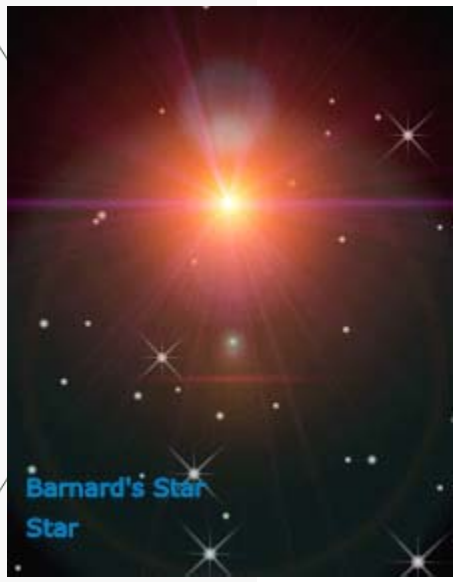
Harris pled guilty to blowing up the support legs of the Jinnison Oil platform, but innocent of murder of the 1200 people who died there, claiming them to be "brainless robots programmed by the fish and oil industries" and therefore not human.

The jury wasted no time in coming back with a guilty verdict on all charges, leaving the room for under five minutes to deliberate. Wahoo Circuit Court Judge Liah Moen sentenced Harris to death under the eco-terrorism acts of the territory's legislature.

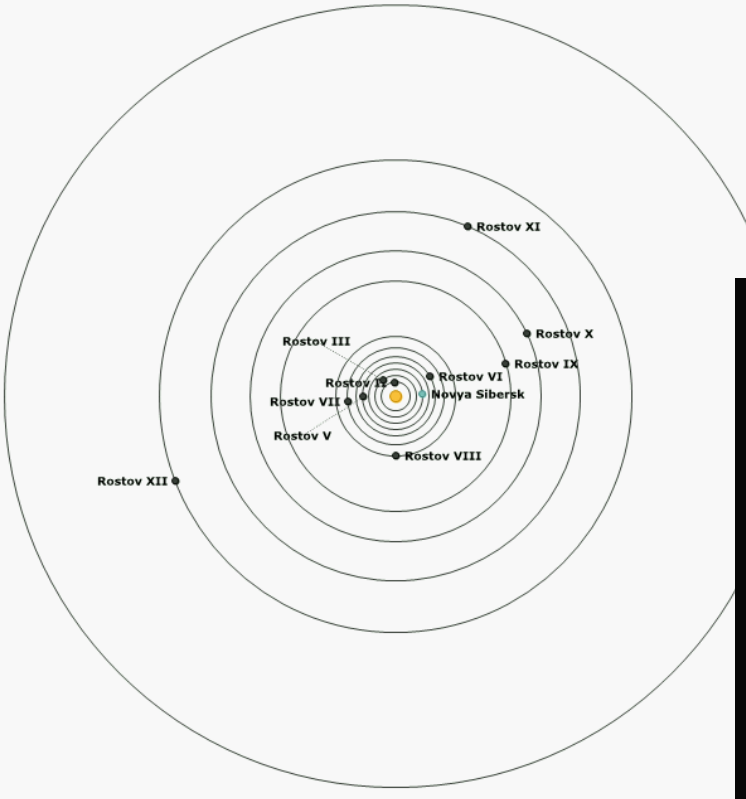
!

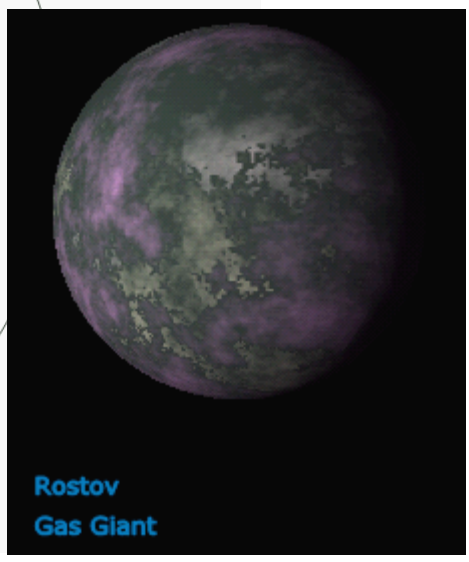
Barnard's Star
Star System Diagram



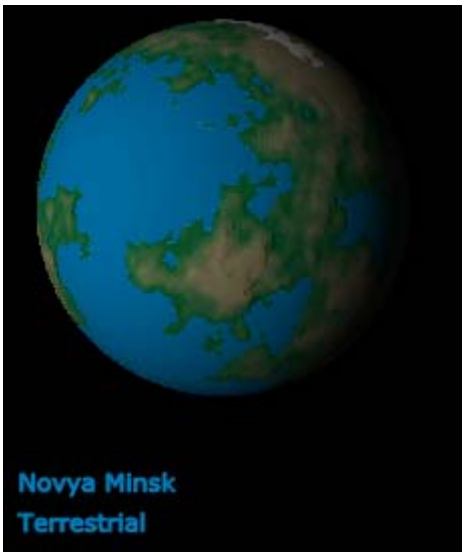


Rostov
System Diagram





Novya Minsk



Orbit Number: 1
Temperature: Hot. The polar regions and higher altitudes are preferred for settlement.
Gravity: Slightly light gravity - almost 9/10 of Earth's.
Atmosphere: Somewhat thin and oxygen deficient. Respirators needed. A lot of argon and sulphur dioxide.
Native Life: Rich and varied flora and fauna, most edible, and some possibly domesticable.
Minerals: None worth mentioning.
Habitability: Good.
Population: 845,000
Distance from Sol: 6 LY

From the blog of Lucky Vladimir, August 2002

Has been almost one years now since comet hit Earth, and Lucky Vlad is having it up to here with idiot refugees! Kurgen was fun town last year, now flooded with pitiful refugees sleeping five deep in apartments, moaning about red sun and stinky air, wearing blah clothing like rags, being all stiff and sober except while drinking up whole colony's vodka supply and crying about stupid Russia. Have had it! Loser refugees dragging down whole colony.

Yesterday stopped at Ylena's on Nevskiy Prospeckt for tea. Was chatting with Fyodor and Anastasya when big protest march comes up street, like swarm of roaches. All refugees wanting jobs, apartments, better air, yellow sun, ugly clothing. All Ylena patrons starting yelling and throwing biscuits and tea, saying "Here is food! Here is drink! Go back to Russia if you not like!" Big fight breaks out, am cracked over skull with protest sign, trampled under grim refugee shoes. Not having fun time here, folks!

Am thinking now should put refugees out to work in fields, keep out of cities. For long time we have been apart, and now being two peoples, mixing is not working. They not liking our stinky air, not having to breathe it. Lucky Vlad says so.

Novya Sibirsk

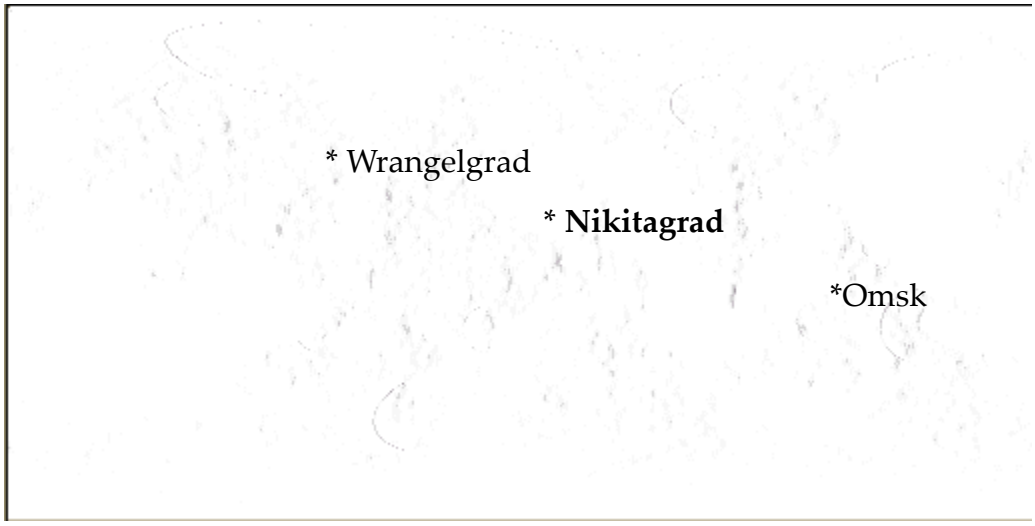
Orbit Number: 1 (Moon of Rostov)
Temperature: Very cold. Even tropics are frozen.
Gravity: Light gravity. Every 10 lbs/kgs loses 3.5 lbs/kgs.
Atmosphere: Very thin but oxygen rich.
Native Life: None.
Minerals: Fair, but best source of minerals in a mineral-poor system.
Habitability: Marginal at best.
Population: 64,000
Distance from Sol: 6 LY

From the journal of Doctor Raisa Aleevna Kuznetsova - former political prisoner - May 2004

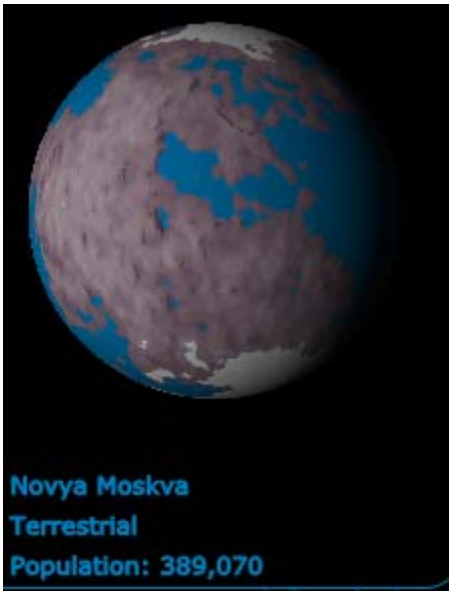
Apparently the political problems with the refugees on Novya Minsk may be winding down, with the government founding new municipalities for refugees only. Sounds like a recipe for disaster to me. We won't have any refugee problems here, as we asked for as many refugees as wanted to come here, and less than a thousand came. They fit in very well. The burgeoning high tech sector here slurped them right down. Lucky the Soviets sent us so many brilliant scientists back in the bad old days. Now we are doing very well for ourselves.

Sending uranium and other metals to N. Minsk in exchange for food was not a good deal for us. Now that we are developing computers and cutting edge technologies for N. Minsk, the balance of exchange has tilted far in our favor. If the refugees knew how high our standard of living was here, we would have been flooded with applicants.

I attended the opening of the new Technical University in Wrangelgrad yesterday. That makes three now - one in each of our cities. It's a beautiful campus - wide corridors, sunken gardens, and beautiful scenery through the triple glazed windows - the ever changing vistas of ice and snow. At first I hated it, now it's soothing. Like home.



Novya Moskva

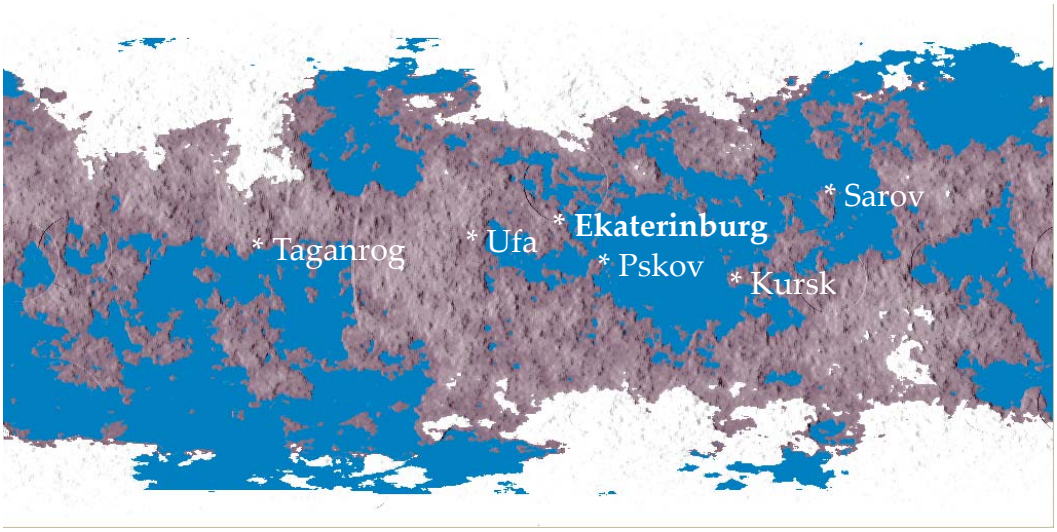


Orbit Number: 1
Temperature: Very earthlike.
Gravity: About half Earth gravity
Atmosphere: Thin - like on the Altiplano or Tibet. High levels of sulphur and CO2 make filters and scrubbers a necessity.
Native Life: Primitive plantlife. Most every significant species has been imported from Novya Minsk.
Minerals: Metal poor, like most of the system's worlds.
Habitability: Very good.
Population: 378,000
Distance from Sol: 6 LY

From the journal of Irina Antonova Barsukova (Translated)

When I came into the consulate in Ekaterinburg, the marine passed me through politely when I showed him my papers. I was shaking so badly he must have noticed. The papers were actually rattling. I looked, but I was no evidence of a tail, so papa may have been wrong about that. The consul's aide spoke fluent Russian. When I complemented him, he told me his family were from the old country. I was astonished! I never suspected that Americans could be Russian as well as American!

There was paperwork, of course, but the procedure was simple enough. I have more stamps and lettering on my bread ration ticket. When I got home, Sasha was furious! He said how dare I talk to the Americans! He would not listen - my son, his son! Little Misha would die, but the Americans could save him! You are not to go to the Americans, he shouted. Not as long as you are my wife! That can be solved, I said. You are asking me to choose between you and Misha. I went to our room and packed, sobbing the whole time. When I left to go to the hospital, Sasha was sitting in the kitchen with a bottle of novy vodka in front of him. He never looked at me when I left.



Ruslan

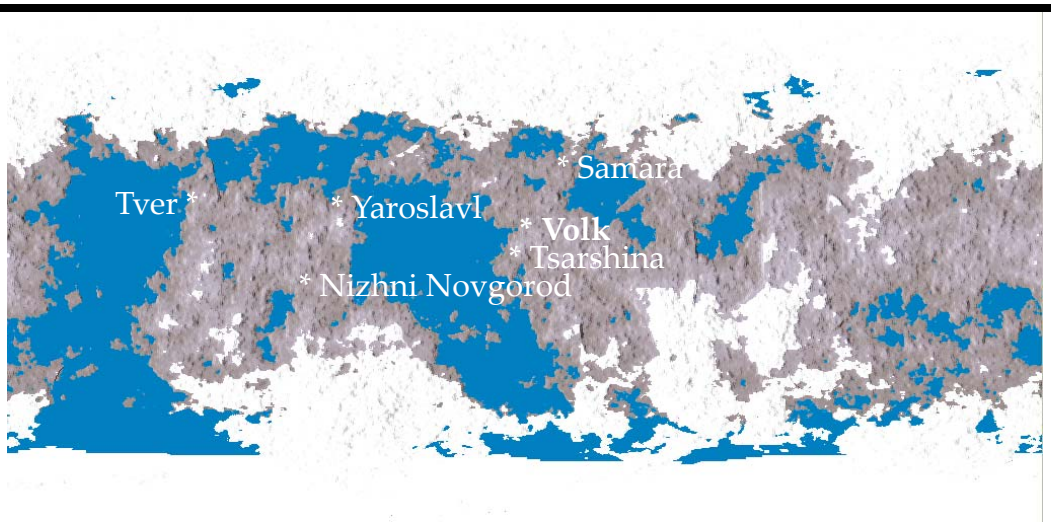
Orbit Number: 1
Temperature: Warm and earthlike.
Gravity: Somewhat less than half Earth gravity.
Atmosphere: Thin atmosphere, breathable in the lowlands, with no filters or scrubbers needed.
Native Life: Primitive plantlife. Most every significant species has been imported from Novya Minsk.
Minerals: Better than most planets in the system. Some commercial metal deposits.
Habitability: Very good.
Population: 386,000
Distance from Sol: 6 LY

From the diaries of Starshina Elena Feodorovna Yelkova (Translated) February 2001

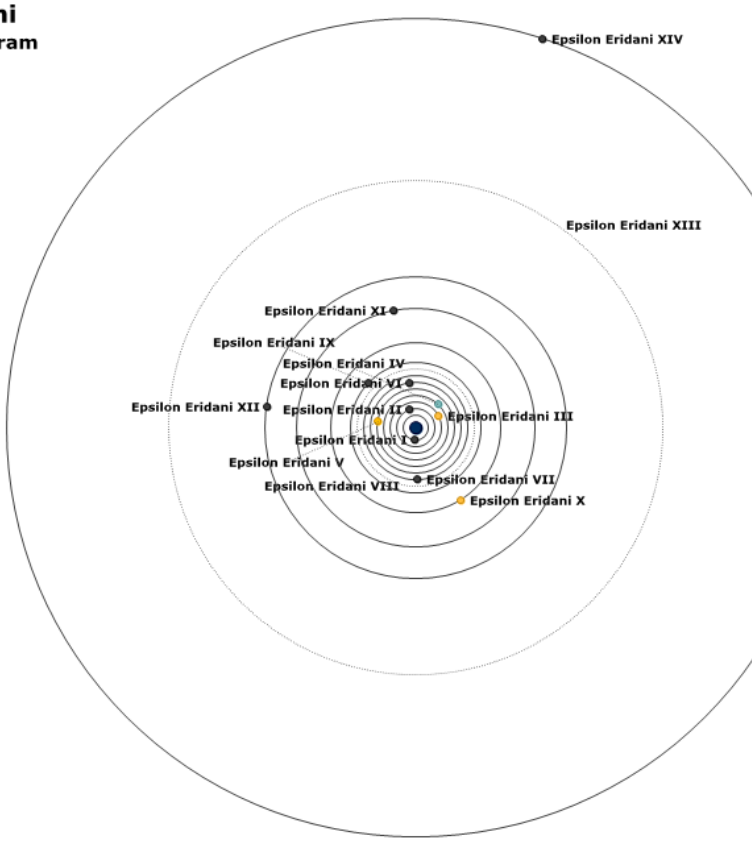
I have been transferred to the main starbase on Ruslan, near Volk. The base is large - like home, space is not a problem here. The people are strange though. They welcome us enthusiastically, with genuine affection, but they wax nostalgic for the old days, when they were the hidden worlds and the bulwark of Soviet orthodoxy. We who come from the old Russia do not fit in so well - most of us have anything but fond memories of the old regime.

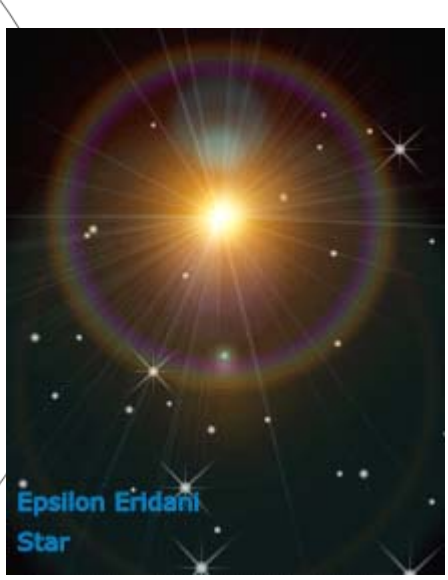
The people here were the cream of the Soviet dream, but they look strange to our eyes - the young ones are so tall and spindly, and the old ones so... old. They are worn and beaten from the toil of carving themselves a new world. When the new Refuges were founded, these planets were dropped like yesterday's turnips, but they do not seem to resent it. They only fear the Americans and their cousins from N. Minsk, who are both too familiar and too strange.

The land here is very mountainous, reminding me in places of the Caucasus. So many little valleys with their strange backward people. In the cities it is better. They don't act disappointed to not see the hammer and sickle. Still, the flag of the Federation flies over this world, and we must adapt as best we may. They chose us, so they are our people now.

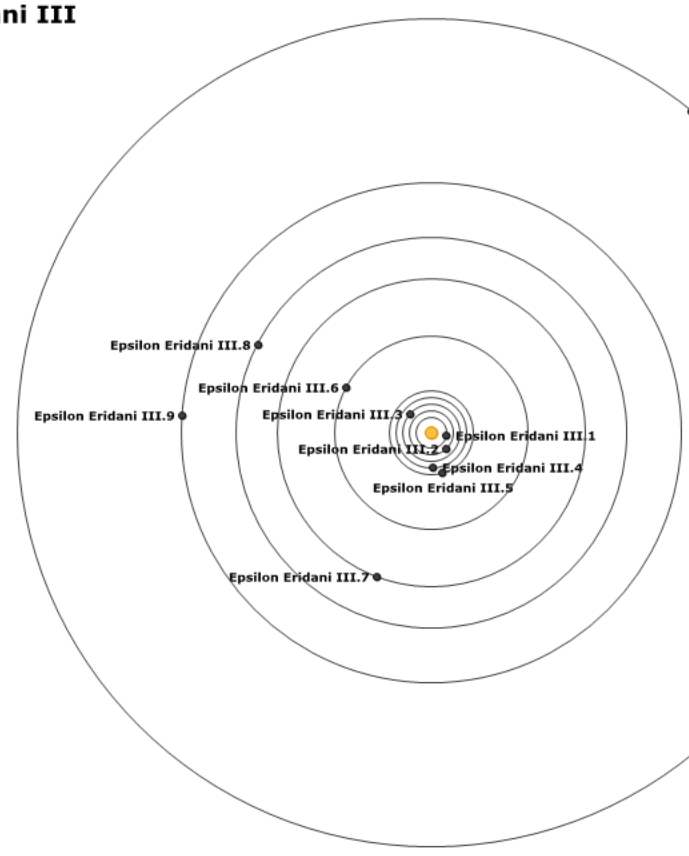


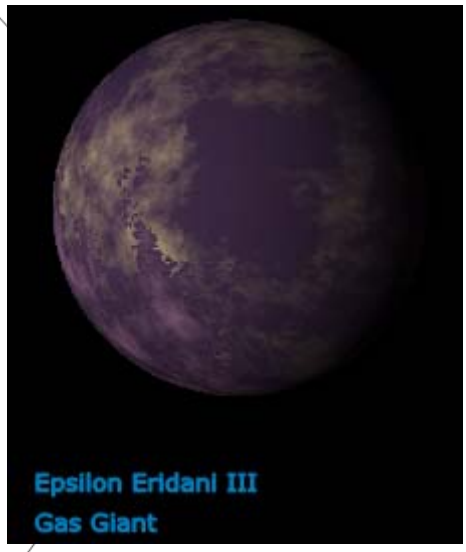
Epsilon Eridani
Star System Diagram



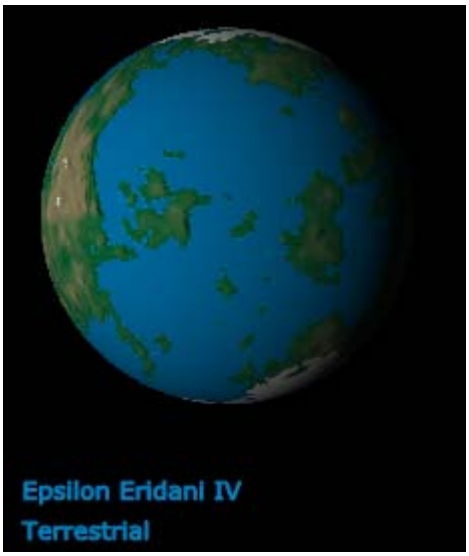


Epsilon Eridani III
System Diagram





Epsilon Eridani IV



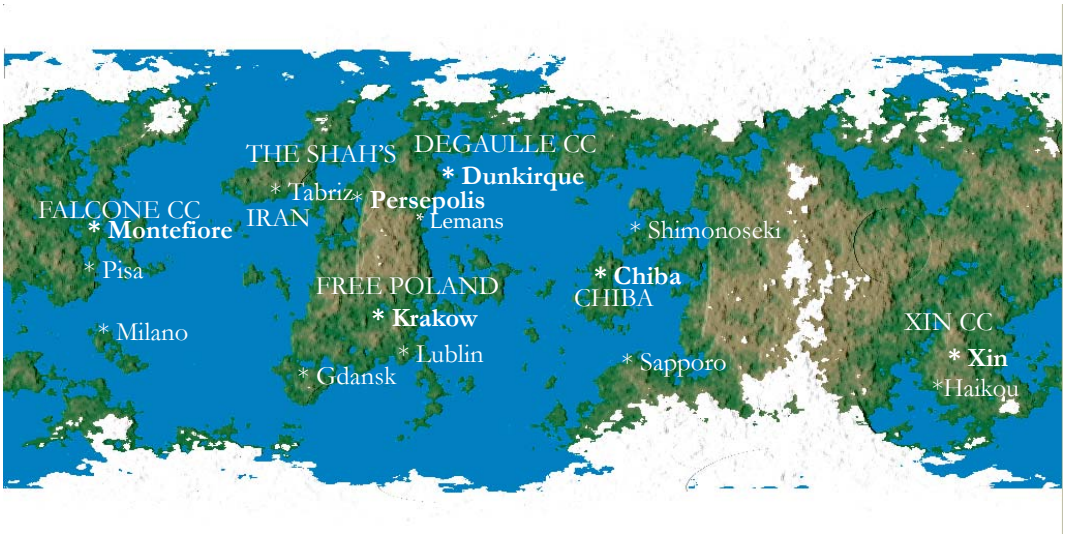
Orbit Number: 2
Temperature: Cold and dry.
Gravity: About two thirds that of Earth.
Atmosphere: Somewhat thin. Only half the density of Earth's.
Native Life: Widespread, though comparatively few species. Potential for commercial exploitation is high. Meat is edible for most species.
Minerals: Somewhat poorer than Earth's.
Habitability: Very good.
Population: 1.000,000
Distance from Sol: 10.5 LY

From the Tabriz Investigator, June 2, 2003 (Translated)

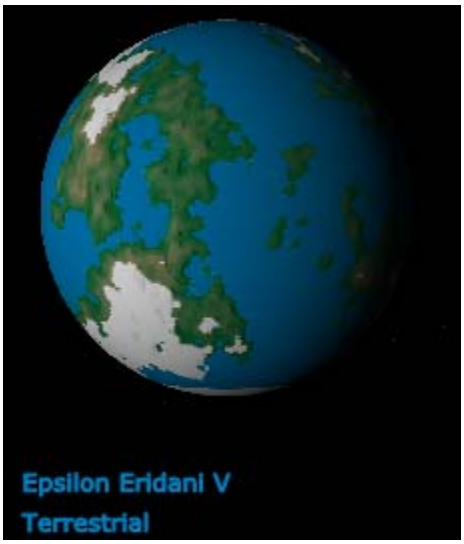
Spaceport Police today arrested 32 year old Nasir Faradis at the Persepolis spaceport. Faradis is allegedly one of the two terrorists who rode the comet that hit Earth in September of 2001. Faradis and accomplice David Pollard allegedly commandeered the comet from a Martian Terraforming Association crew and rode it to within a half million kilometers of Earth, steering it into a direct hit on New York City. Police are predicting a fair and speedy trial, and a quick execution.

From the journal of Taddeo Donato, sculptor of Montefiore, June 11, 2002 (Translated)

Last night I completed Wind and the World. The figure of Atlas I rotated another twenty degrees, and the Earth is now just barely contained by his fingertips. The Wind is whipping his hair across his eyes, so he is blinded by his own vanity. I accentuated the back muscles even more so that they stand out like mountain ridges, and the sweat runs in rivers down to his buttocks. All that can be seen of his face is the teeth gritted in effort as he strains to keep the world from blowing away out of control. The final touch was the toes digging into the ground as he strains to keep standing. I was so tempted to make one more change...



Epsilon Eridani V

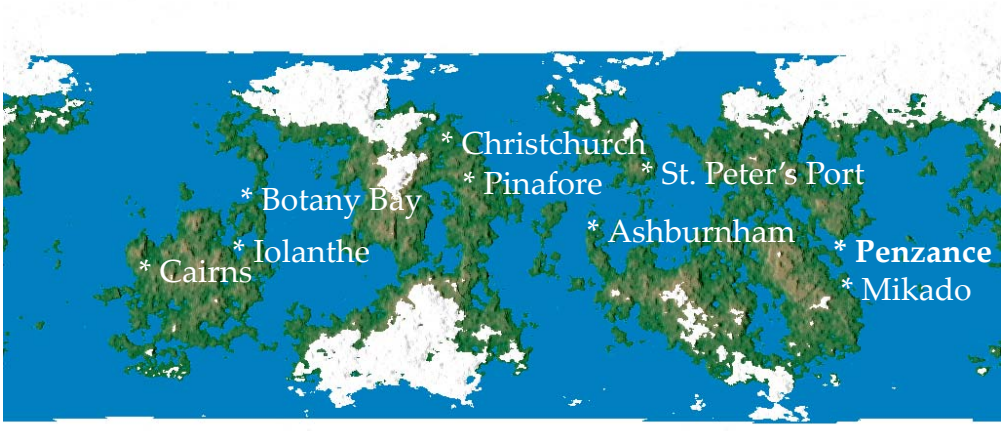


Orbit Number: 3
Temperature: Cool but mild. The seas moderate the temperature quite a bit.
Gravity: Almost identical to Earth's, though a touch heavier.
Atmosphere: Slightly thinner than Earth's, with a high partial pressure of oxygen, neon, and argon.
Native Life: Both animal and vegetable are very earthlike, mostly edible.
Minerals: Earthlike
Habitability: Very good. Excellent for agriculture.
Population: 480,000
Distance from Sol: 10.5 LY

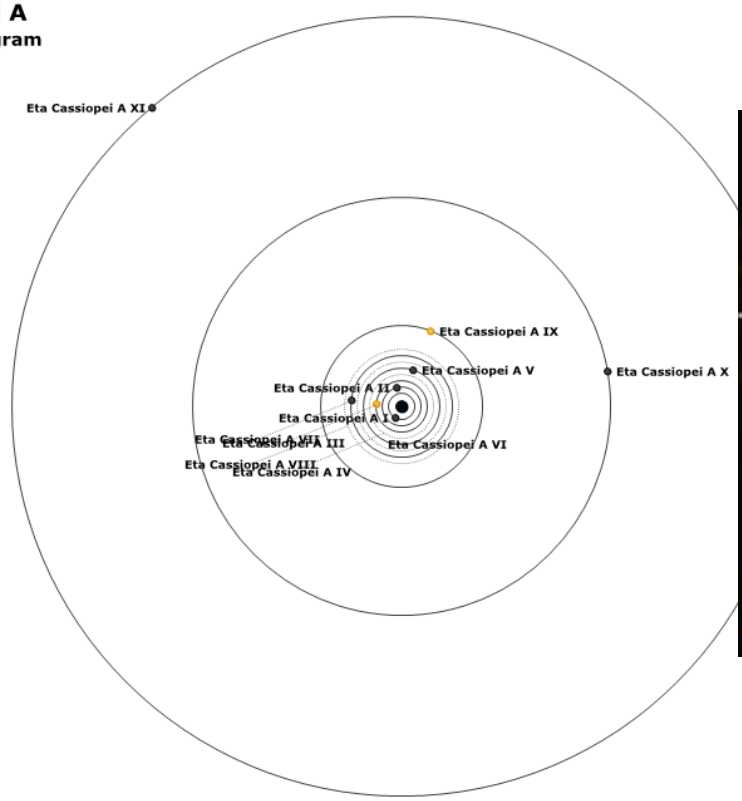
From an editorial in the Gilbert Crier, August 14, 2004

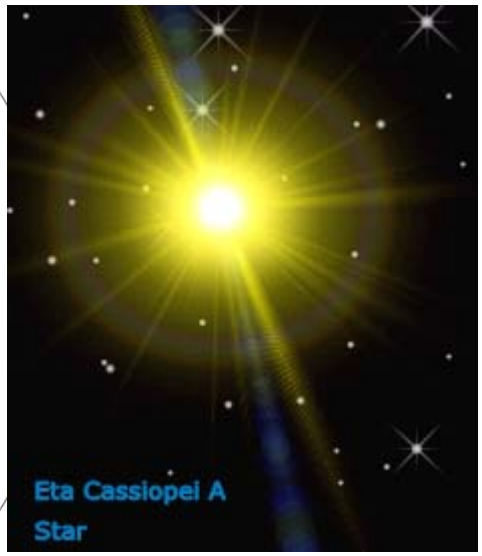
With the recent decision by Parliament to cut the British share of funding of the CCA by 50%, Australia, Canada, and New Zealand are also seriously examining pursuing the same course. We in the colonies need to rethink our own situation. Mother Earth is turning her back on us, and we had best be prepared or we will wind up being left to die on the vine. Most of our trade is with the mother countries, with Earth, but we have far more in common with the other colonies than with Earth.

Let us say to the CCA and to the EU "We understand you have little interest in our problems when yours are so urgent, but you must understand that we have these problems, and these problems will not go away if you ignore them. Therefore we will deal with these problems as we must, with or without your help." Right now, we do not tax ourselves in the interest of growth. Let us initiate a CCA-wide taxation program and use the funds to support ourselves. As subsidies from Earth dwindle - as they inevitably will - we can support ourselves more and more, as the US colonies do. There is not going to be a change of heart on this point - the mother countries are abandoning us. We cannot just let this happen, or we will wither away into barbarism.

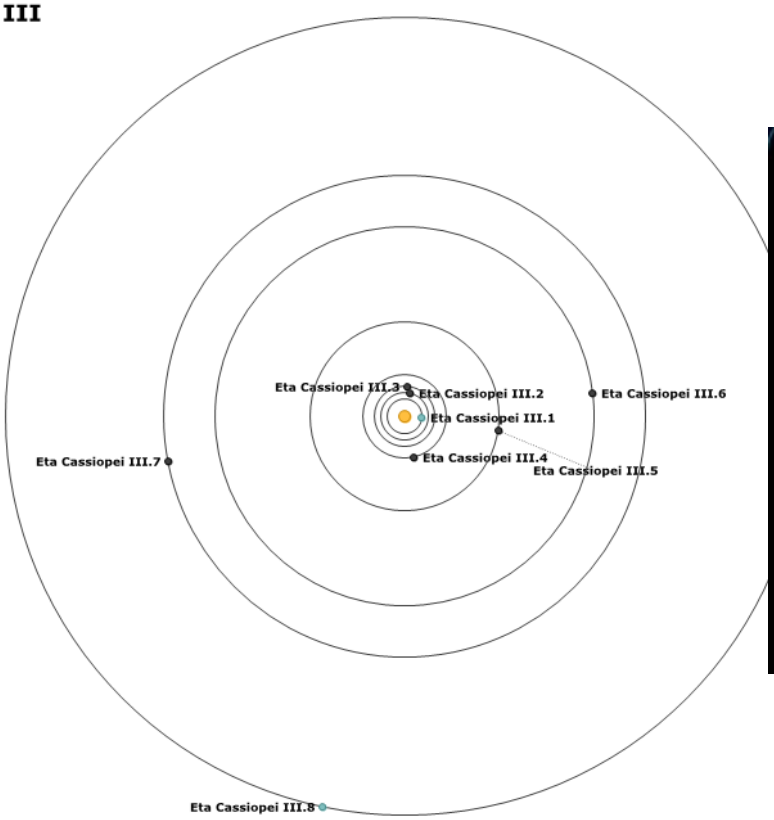


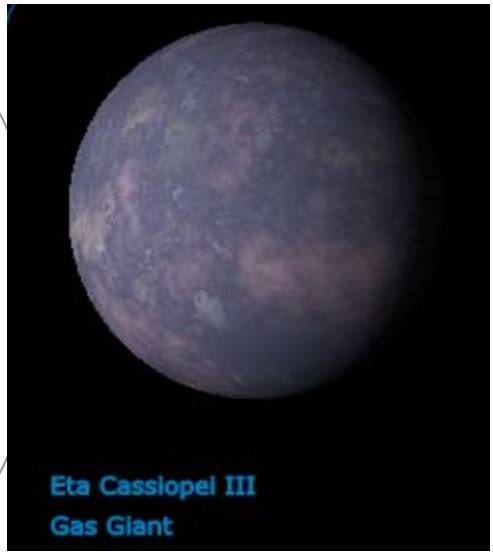
Eta Cassiopei A
Star System Diagram



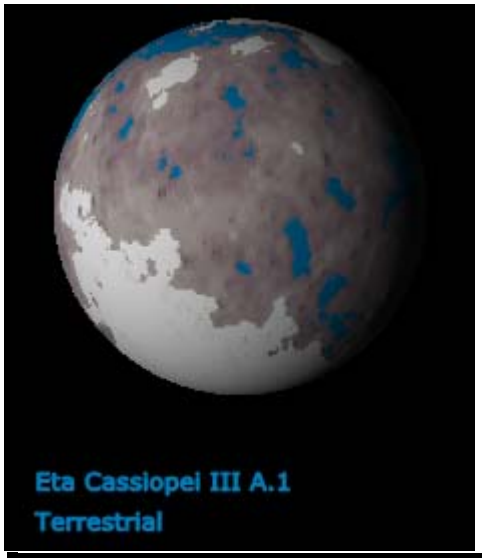


Eta Cassiopei III
System Diagram





Eta Cassiopei A III. I

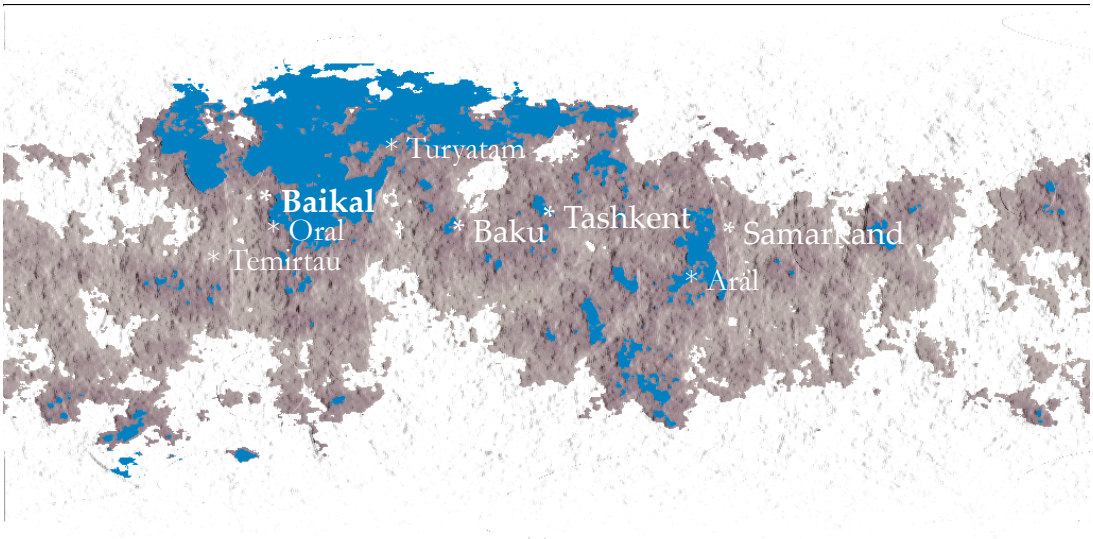


Orbit Number: 3 (Moon of Eta Cassiopei A III)
Temperature: Cool but comfortable. Rather dry.
Gravity: Light - about 3/4 that of Earth.
Atmosphere: Quite thin - respirators required.
Native Life: Plentiful flora, no fauna beyond invertebrates.
Minerals: Much richer than Earth
Habitability: Good. Atmosphere is the main problem.
Population: 275,000
Distance from Sol: 19.4 LY

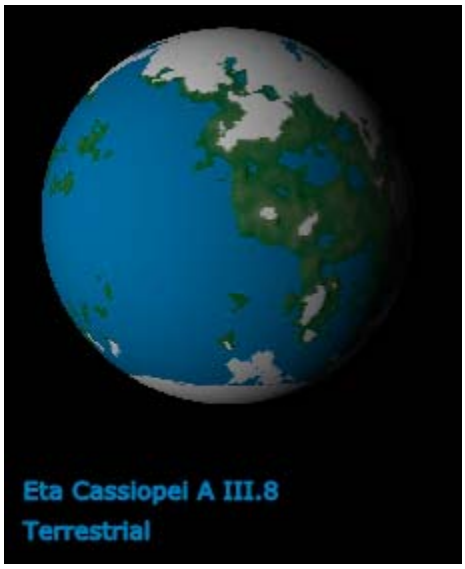
From the private log of Captain Asa Hawkins, May30, 2000

We set the Comet down in Baikal Spaceport needing a replacement of our NERVA engine. The tubes were getting clogged with uranium deposits, and thrust was deteriorating. We contacted Baikal Central with the request, and they came back with an outrageous figure. I refused, rather curtly. I'd rather attempt the chancy run to Tau Ceti than submit to highway robbery! We had begun offloading our cargo of Jobbos from Cockpit, selling 'em at a good price, and contracted for a load of nickel to take to Tau Ceti, when one of the stevedores pulled me aside.

"Have deal for you, Captain." he says. "Have relative in Atomic Engine Commissariat who can give new engine - swap for old plus small fee."I answered "You've got to be joking, man! What is he going to do with the old engine?" "Clean out old engine," he says, "give to next ship with engine troubles for old engine plus small fee." "And where does this fee go?" "Ah!" he gloats. "Some to him, some to me, and some to Baikal Central to keep engine prices high." I sighed and paid him his fee. We had the refurbished engine installed in no time.



Eta Cassiopei A III.8



Orbit Number: 3 (Moon of Eta Cassiopei A III)
Temperature: Cool.
Gravity: Light, about 7 tenths Earth's. 10 lbs/kgs would weigh 7.
Atmosphere: Somewhat thin, about 2/3 Earth's, but rich in oxygen.
Native Life: Extensive and varied. Mostly Earthlike.
Minerals: Very poor - a huge but very light moon.
Habitability: Very Good.
Population: 502,000
Distance from Sol: 19.4 LY

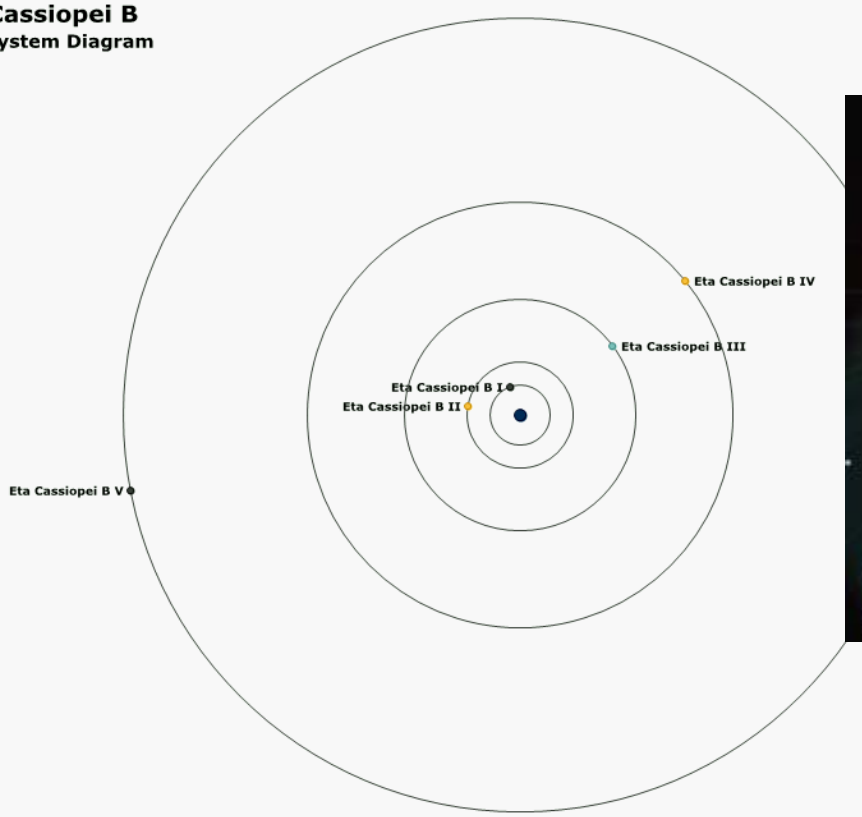
From the memoirs of S. Govind Narayam, former governor of Gujrat

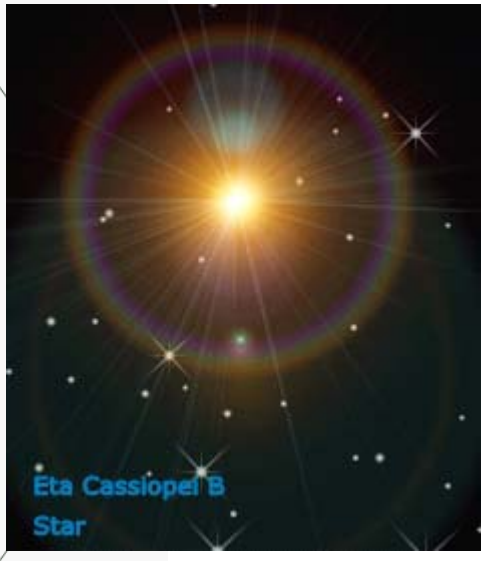
In 1992, I retired to Puna, a village in the mountains east of Gujrat. The villagers in this area had tamed a variant of the Guta, a native cow-like animal, to do their plowing. The boys of the village used to sing as they scattered the millet seed behind the Guta, songs of their bright futures, the girls they would marry, the romantic deeds of their fathers, but never did they sing of India or the long past before we came here. "Such a shallow horizon" I used to think, "They have no rooting in the soil of their ancestors!" Since independence, I have begun to see it differently. They *are* the roots of their futures. *Our* futures.

From an editorial in the Ladysmith Union, September 11, 2002

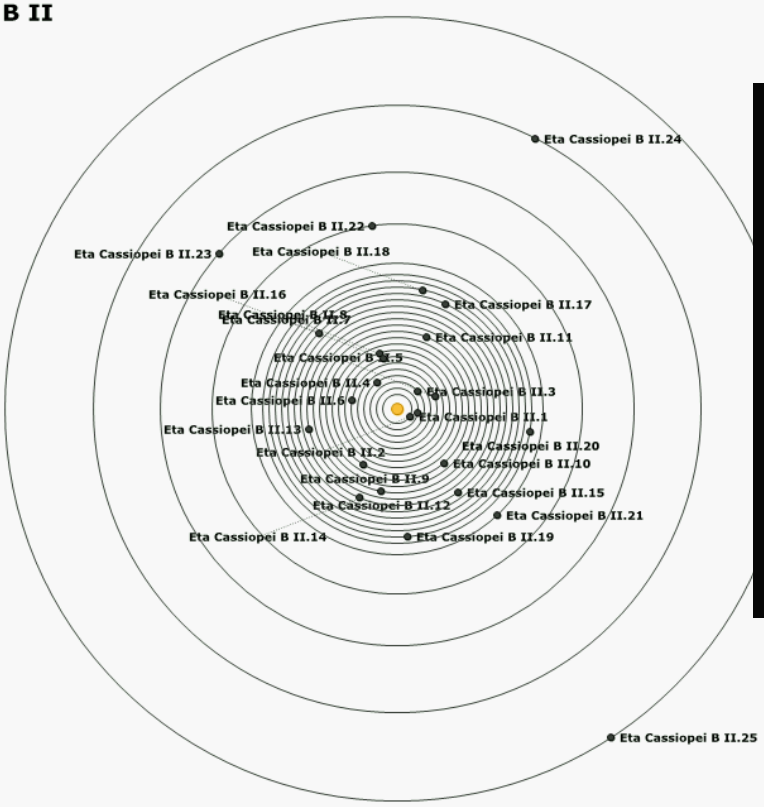
On this, the anniversary of the terrorist strike at the Earth and the root of our present independence, we should pray for the eventual recovery of the Earth and South Africa, and give thanks for our survival as a nation in the troubled times since. When things went bad, we did not beg for help from others. We stand on our own, and make do with what we have. Our population is small, but our spirits are proud, and we have not given in to despair. I am proud of our small nation, and proud of each of us, as individuals.

Eta Cassiopei B
Star System Diagram





Eta Cassiopei B II
System Diagram



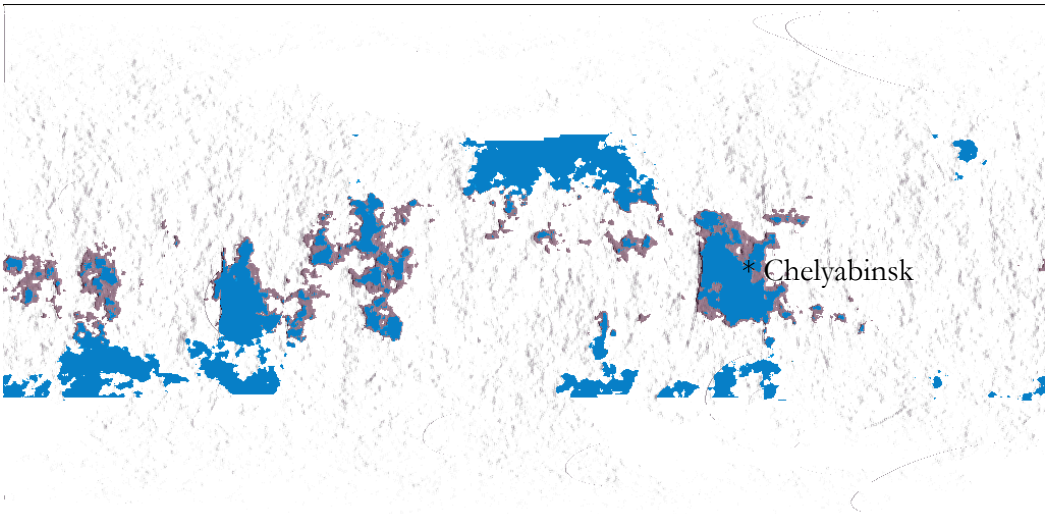
Eta Cassiopei B III

Orbit Number: 1
Temperature: Cold and very dry.
Gravity: Very light - about half Earth's gravity.
Atmosphere: Thin and sulphurous. Gas Masks and CO2 scrubbers required.
Native Life: None.
Minerals: Good. About the same as Earth's.
Habitability: Very Marginal
Population: 35,000
Distance from Sol: 19.4 LY

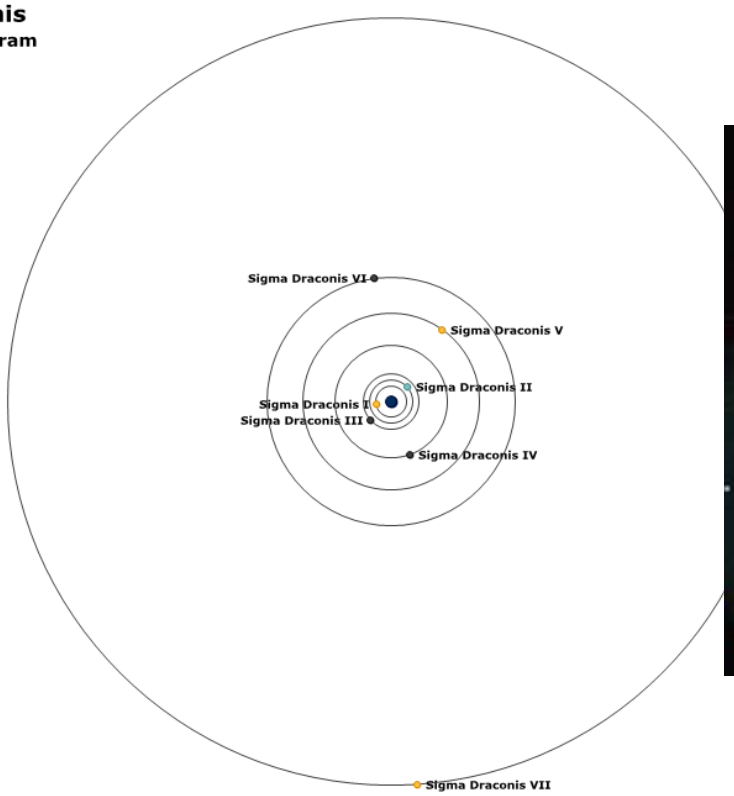
From the private log of Captain Asa Hawkins, October 11, 2005

We got the Comet set down on the Chelyabinsk tarmac, and I put on my mask and scrubber to go outside. Thing about Ural colony is that Chelyabinsk *is* the colony. There are no farms, no fishing fleet, and no wildlife. Where the town ends, the rocks begin. There are half a dozen mines boring into the hills around the town, as Chelyabinsk sits on a couple of high quality veins, but that's it. In Chelyabinsk, you dig ore, smelt ore, load ships with metal smelted from ore, or supply the necessaries to folks who do. There are no shops. The Commissary feeds you and clothes you, builds your home and supplies you with what it thinks you need. In theory, you own the Commissary, but for some reason it doesn't feel that way.

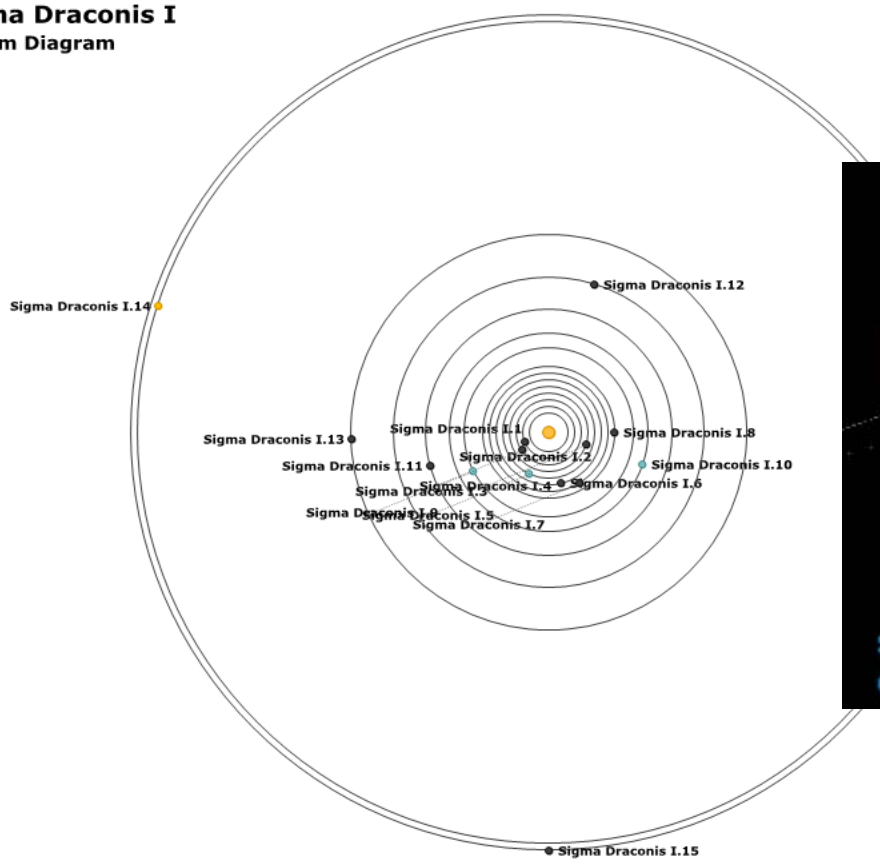
The big problem with dealing with the Commissary, as a free trader, is knowing what they need. This always entails going in and 'talking' with the Commissary functionaries, and by 'talking,' I mean drinking endless glasses of vodka. It's no use working with a translator. I learned to speak idiomatic Russian because the translators were so terrible. So, I drink and drink, listen to stories, songs, and poetry, and from that try to figure out what's in short supply, what's expected to come shortly, and what I can make a good trade with.



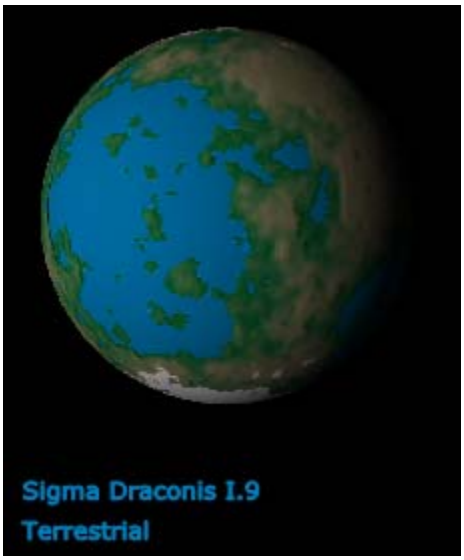
Sigma Draconis
Star System Diagram



Sigma Draconis I
System Diagram



Sigma Draconis I.9



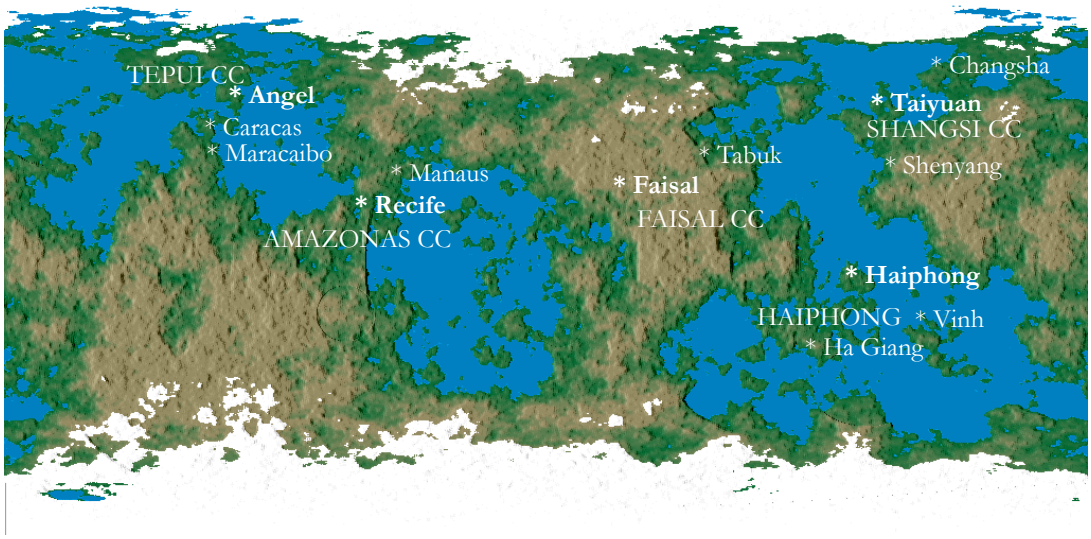
Orbit Number: 2 (Moon of Sigma Draconis I)
Temperature: Hot and moist. Oppressive humidity at the equator.
Gravity: 0.9 Earth Gravity. Lose 1 lb/kg in every ten.
Atmosphere: Pressure close to Earth's with a shade less oxygen
Native Life: Some plants, mostly poisonous or otherwise harmful.
Minerals: Somewhat poor in metals.
Habitability: Excellent, with only the heat as a drawback.
Population: 323,000
Distance from Sol: 18.8 LY

From the journal of Kemal Abd-al-Jabbaar, March 22, 2002 (Translated)

We have word today from Earth. The King has not abandoned us, as many had feared. He pledges his word and the honor of his family to keep us going. Praise Allah! Many had feared we would be cut off, like many other colonies. In the streets of Faisal there was great rejoicing, and the Mosque was crowded. This is potentially a great land, but until we people it, it is a wilderness.

From the blog of Maria Esmerelda Bompart, July 8, 2003

Our new masters at the SAU have decided in their infinite wisdom that Tepui and Amazonas will not be made into a single colony. Differences in culture and language were trotted out, and the order handed down. Such short-sightedness! We are adjacent, sympathetic, and our mother nations have united. We would come to dominate this world in no time. Perhaps when our independence is granted - or taken - we can unite - my friends in Manaus and Recife are working towards that day, and I am doing what I can here in Angel. The SAE cannot be allowed to dictate to the people forever.



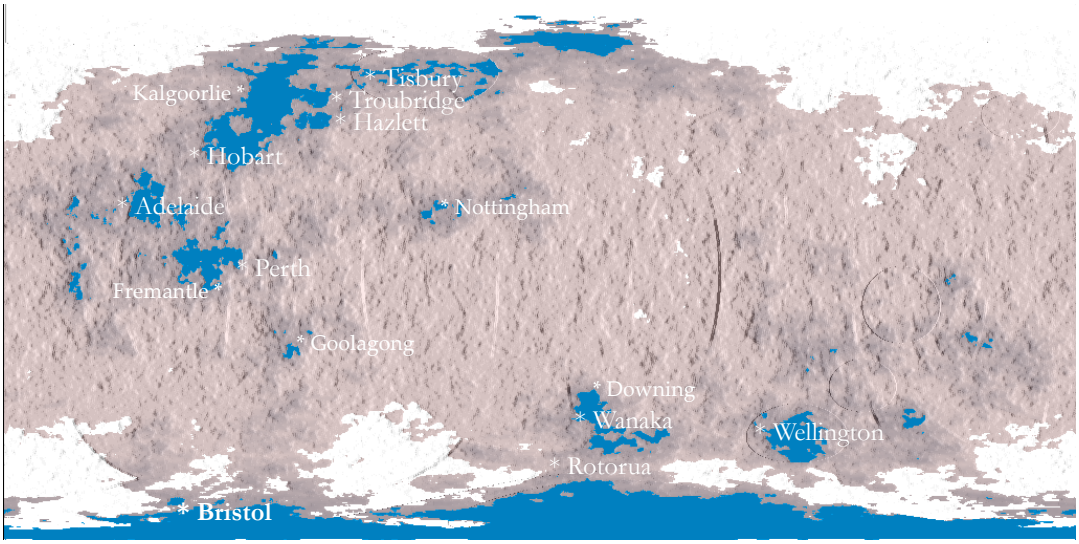
Sigma Draconis I.10

Orbit Number: 2 (Moon of Sigma Draconis III)
Temperature: Very hot, and very, very dry.
Gravity: Very close to Earth's.
Atmosphere: Like Earth's, but with more oxygen.
Native Life: Simple lichenoids and algoids.
Minerals: Metal poor, mostly light silicates.
Habitability: Very good, even with the dryness.
Population: 180,000
Distance from Sol: 18.8 LY

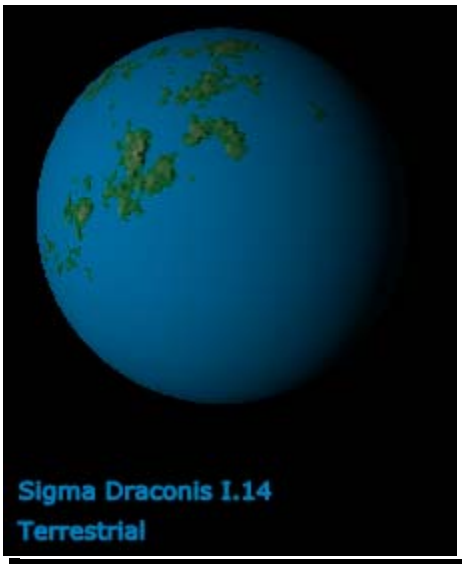
From the blog of Adam Fawcett, October 12, 2003

We celebrated our fortieth year since colonisation in a far more sober manner than our thirtieth or twentieth. The churches here in Wellington were full, and the pubs rather empty. Not a usual condition, I assure you. Everything seems up in the air, as if we were in free fall. The blowhards in Bristol are blathering suitably pompous platitudes, about our duty to Earth and the mother countries, the desperate situation in Britain and Canada, blah, blah, blah. I don't buy it. We didn't come out here to help our mother countries, we came out here to help ourselves, and I'm not afraid to say it.

The big CCA naval base at Nottingham is quiet lately, what with all the ships pulled back to Earth to help with the refugee situation. Do they mean to let us starve here? Despite the success of our topsoil programme, we have little in the way of native food production. None of our cities have over 7,000 citizens, as any more in one place would overwhelm the food supply. We are not yet in a position to tolerate indifference in the CCA or Earth. I know they are in a tough place, but so are we. Either we get more trade with Earth, or we have to go elsewhere - hopefully to our sister CCA colonies, but that is not a requirement.



Sigma Draconis I.14



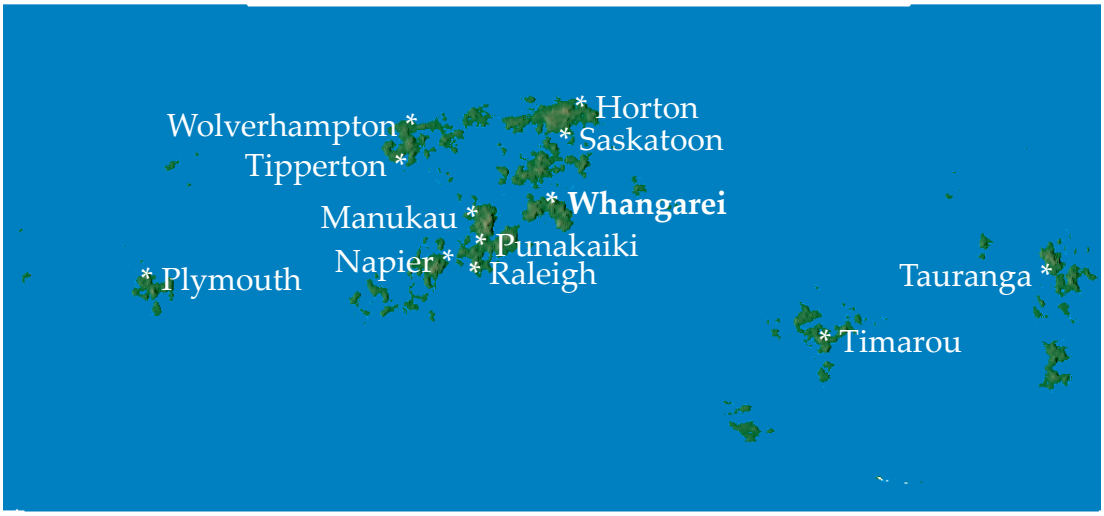
Orbit Number: 2 (Moon of Sigma Draconis I)
Temperature: Warm and wet.
Gravity: Almost 9/10 Earth gravity. Lose 1 lbs/kgs in 10.
Atmosphere: Somewhat thin and a little short on oxygen.
Native Life: Animals and plants are abundant in the sea, some of them edible. Land animals are primitive and clumsy
Minerals: Very very poor in metals.
Habitability: Very Good. Eminently habitable, if a tad wet.
Population: 462,000
Distance from Sol: 18.8 LY

From an email from Emily Warriwarri to her cousin Kareela, June 2005

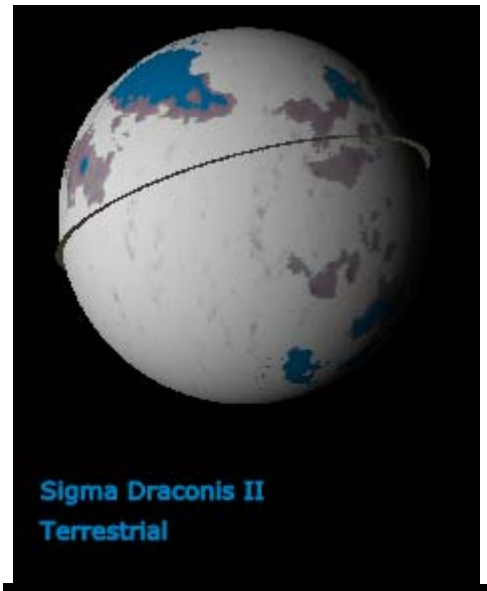
Oh, Karee! Whangarei is bustling now! This, the most beautiful of our colonies, is now the capital of the CCA's Oikumene Provinces. When the mother countries had to lessen their support, we called an Oikumene Congress here in Whangarei, and all the colonies sent representatives. Our man, Mr. Yarrabee, led them all into creating the O. P. Things are moving in a good direction! Trade is way up, and we have set preferred tariffs for other CCA and EU colonies. Now we have outlets for our excess food, and trade partners for most everything.

It gave the economy a big boost - I think just because people regained their confidence. The Starport is hellishly busy, and the company I work for is hiring everyone who can put one foot in front of the other. Leave Earth, Karee! It's a dead place! There is no future there, but there is nothing but future here! I miss you terribly! I can guarantee a job for you!

Oh! I almost forgot to tell you! I I finally had a Timarou Sleighride! I went out in a boat called the Emily G, and we hooked a great Kaufish - it was bigger than the boat, Karee! It pulled us at a tremendous rate through the waves for hours til it tired! It was brilliant!



Sigma Draconis IV

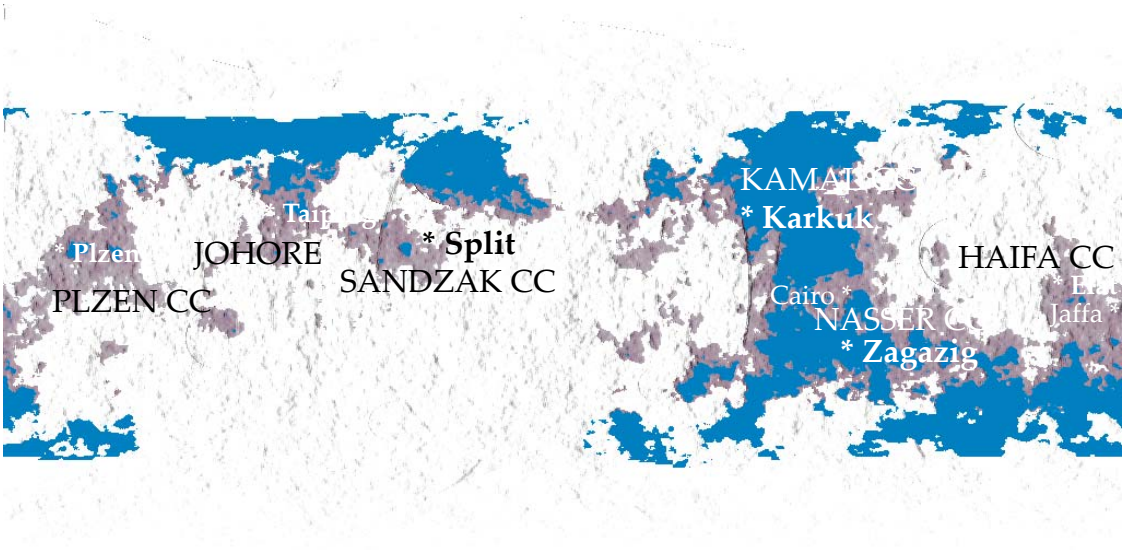


Orbit Number: 2. A very rare ringed terrestrial planet.
Temperature: Cold, though better around the equatorial seas.
Gravity: Somewhat light, losing 2 lbs/kgs in 10.
Atmosphere: Thin and sparse, with a very high partial pressure of helium. Voices will be squeaky
Native Life: Many types of fur-bearing animals flourish, with a rich flora.
Minerals: About the same as Earth.
Habitability: Fairly good. Cold and somewhat dry.
Population: 283,000
Distance from Sol: 18.8 LY

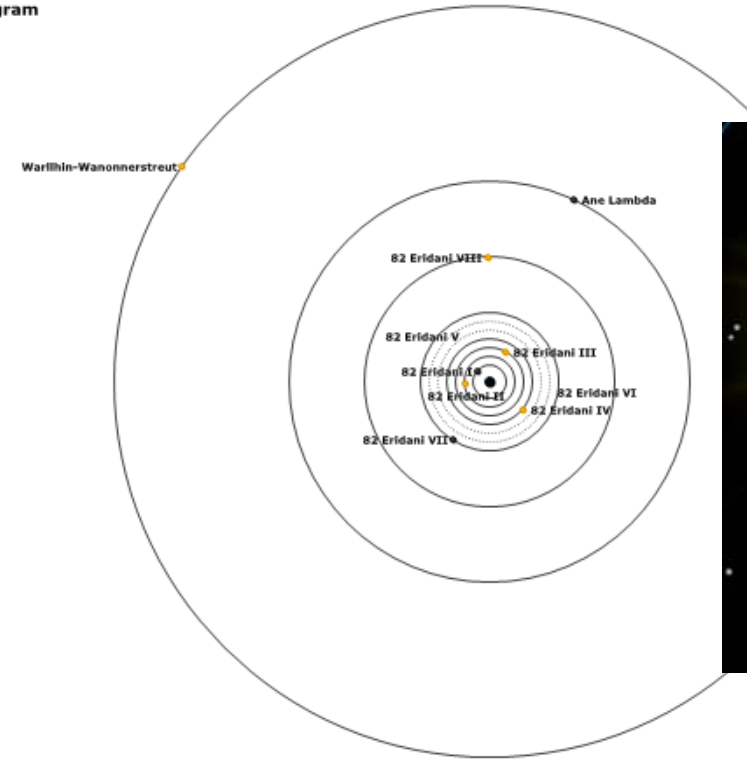
From the journal of Seren (Captain) Eli Ben-Shahar, January, 2002

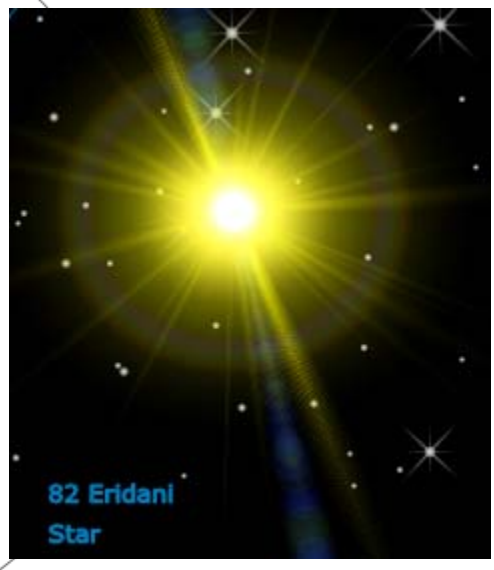
We came down the glacier into East Kamal following the wave of Kfir jets. The lead gun platform took a direct hit from a SAM, but the rest of the sites were soon pounded into rubble by the other airships. Our mission objective was an airstrip near the village of Qom. Our Yatush peeled off from the rest and landed about 2 km west of the strip. Tall black columns of smoke marked the radar sites hit in the first wave, and we deployed over the crest of the hill under considerable small arms fire.

The Kemalis were using two quad 40 mm antiaircraft guns as anti-personnel artillery. I directed first platoon to take the northern gun and second platoon to take the southern gun, holding third platoon in reserve. I took first platoon in, directing the covering fire while Sagam Hirsch led a stinger fire team into position on their left. We received a hellish fire - four men were wounded and one killed in the few minutes it took for the stinger team to fire. It was a beautiful hit. We cleaned up the enemy riflemen and rendezvoused at the strip. Mission accomplished. Total cost 6 wounded, two dead. all was secure in time to refuel the returning Kfirs.

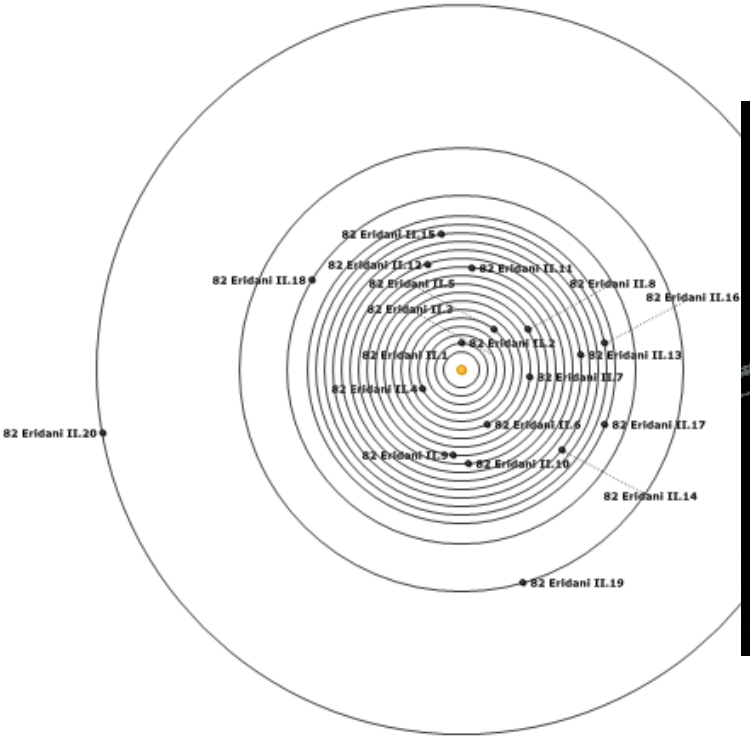


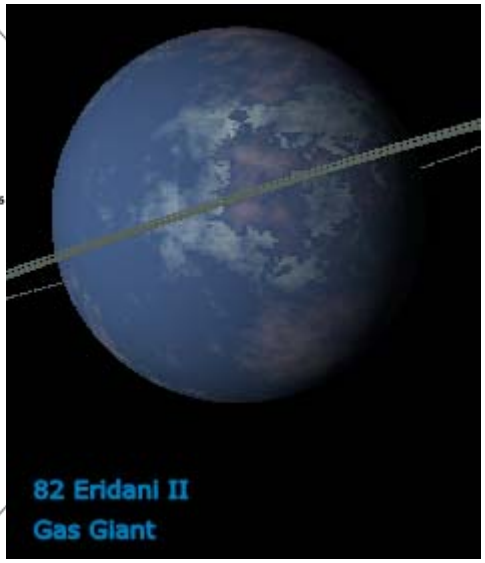
82 Eridani
Star System Diagram



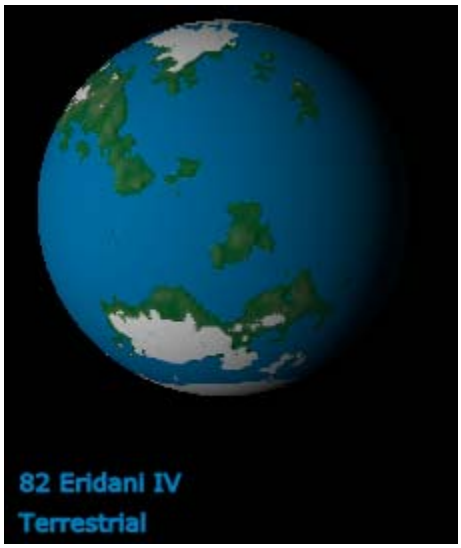


82 Eridani II
System Diagram





82 Eridani IV



Orbit Number: 3
Temperature: Cooler than Earth, but the tropics are very nice.
Gravity: A bit heavier than Earth. 10 lbs/kgs gains one om 82 E III/
Atmosphere: Thick and heavy, with a lot of moisture. Oxygen partial pressure is a bit lower than Earth's.
Native Life: Abundant and rich, with both Earth type forms and strange native types. Many pelagic fish types.
Minerals: A good supply of metals.
Habitability: Excellent. Very Earth-like.
Population: 753,000
Distance from Sol: 19.8 LY

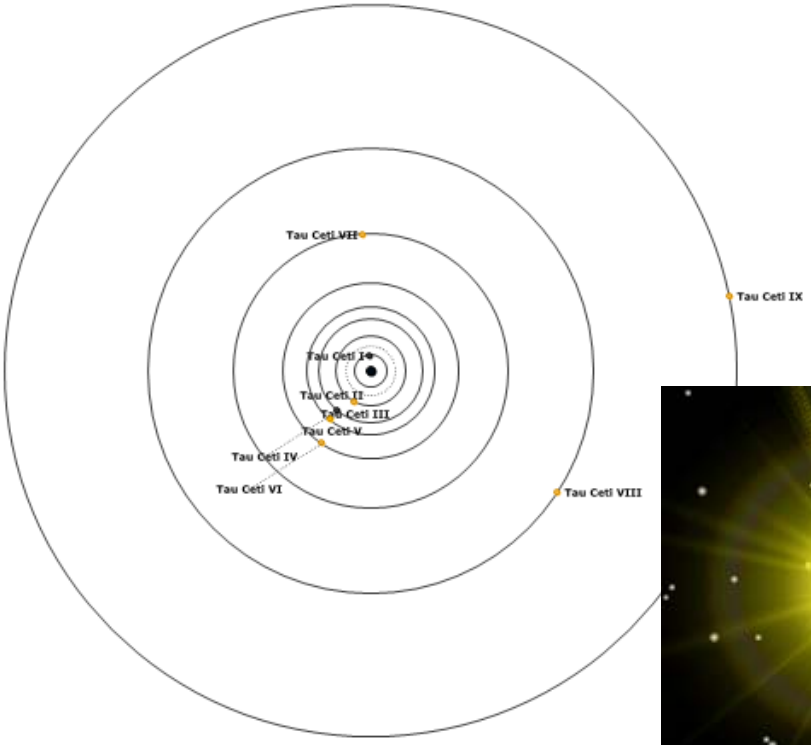
From the Blog of Yevgeniy the Ghost - May 5, 2006

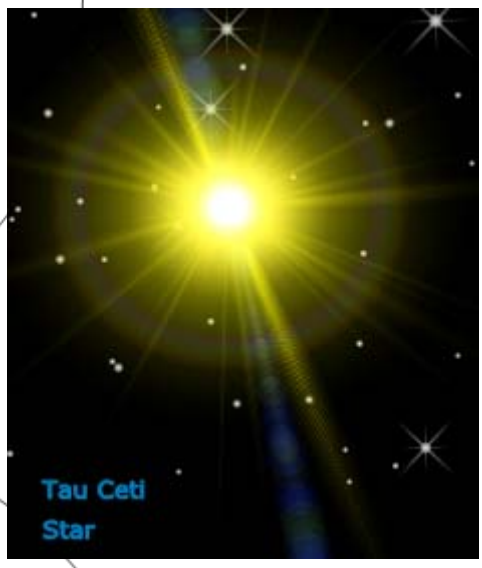
Your favorite ghost sees all, knows all, people of Baikal! A new resort is going up near Kuzhir, funded by the government, but with the proceeds going to private speculators. Now, something about that doesn't smell right to this ghost. There is no payback provision, and no financial obligation. Someone has been busy with the lubricating jelly, and I think it's us.

Secretary Ruslan was found dead in his dascha by his mistress. Suicide, say the police, brought on by excessive drinking. The mistress, however, claims there was no gun anywhere that could have caused the bullet hole in his temple. The police claim they found the weapon across the room, where the good Secretary must have thrown it in death spasms. The mistress? Seems she has disappeared. WHY DON'T YOU HEAR THIS ON THE NEWS?

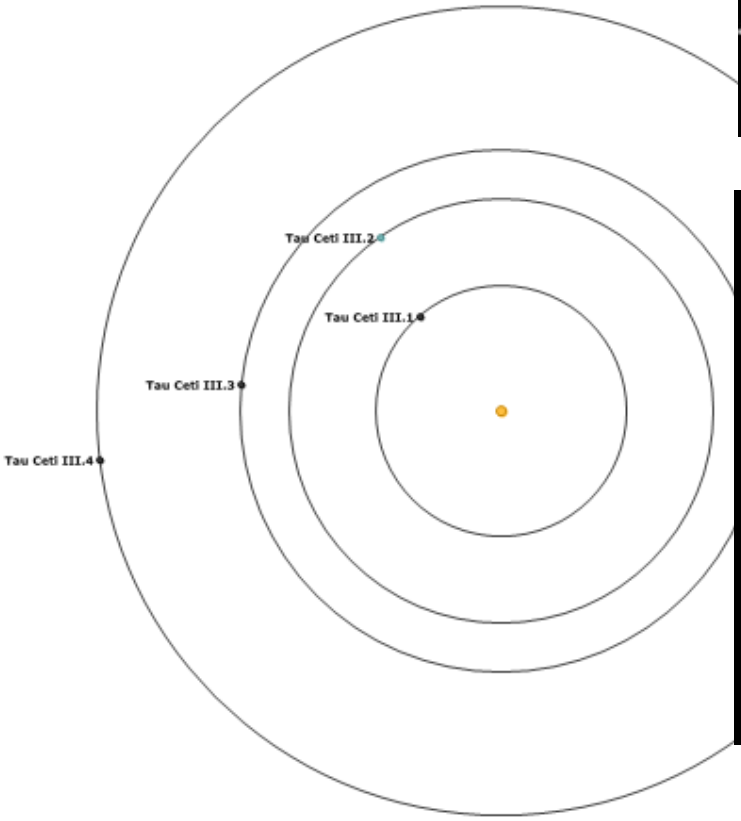
Why do so may of our esteemed representatives in the Duma have bank accounts in various other places in the Oikumene? Bank accounts with large balances in foreign denominations? Why are they so shy about registering them? Fifty-four members of the Duma have such accounts which are not registered with the tax service. Next week, this ghost names names!

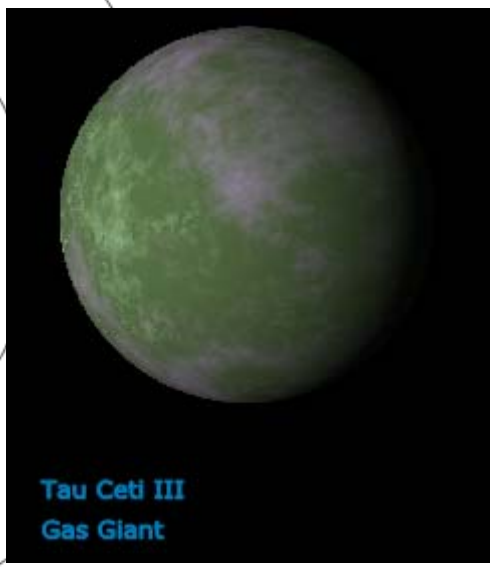
Tau Ceti
Star System Diagram



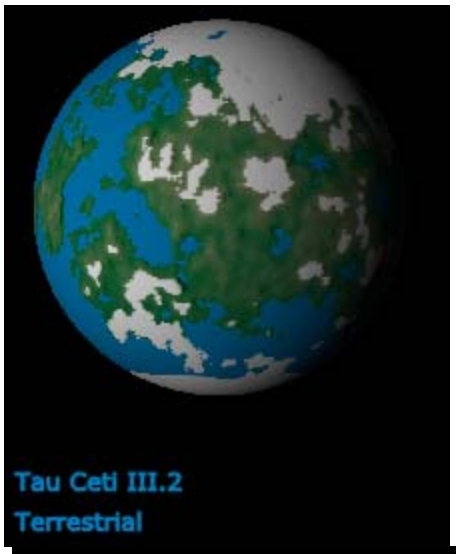


Tau Ceti III
System Diagram





Tau Ceti III.2



Orbit Number: 4 (Moon of Tau Ceti III)
Temperature: Cool, but not too cold.
Gravity: A bit lighter than Earth. 10 lbs/kgs weighs 9 lbs/kgs
Atmosphere: Somewhat thinner than Earth, with more oxygen.
Native Life: Earth type, with some pre-sapient plains primatoids.
Minerals: Very much like Earth
Habitability: Excellent. Very Earth-like.
Population: 355,000
Distance from Sol: 11.9 LY

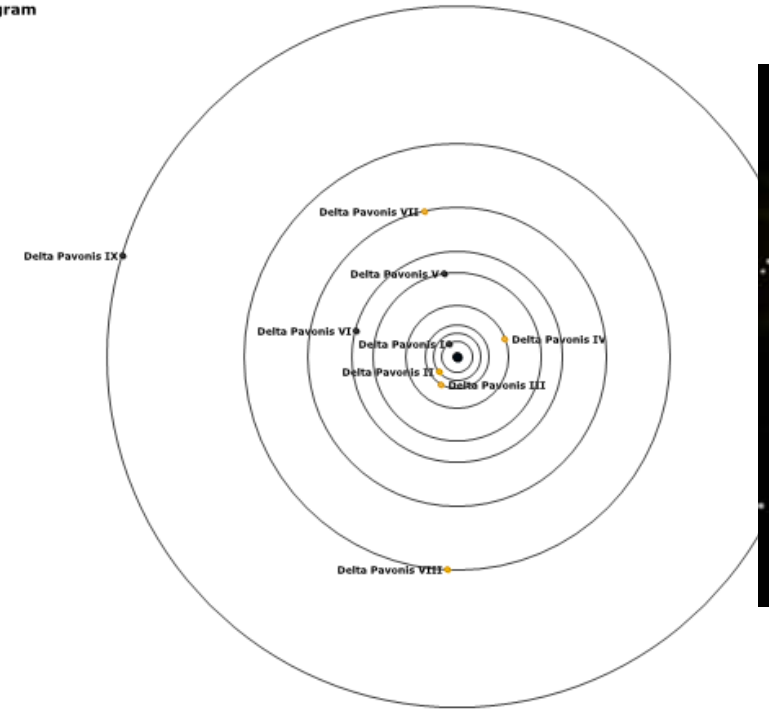
From the Benin City News, March 20, 2006

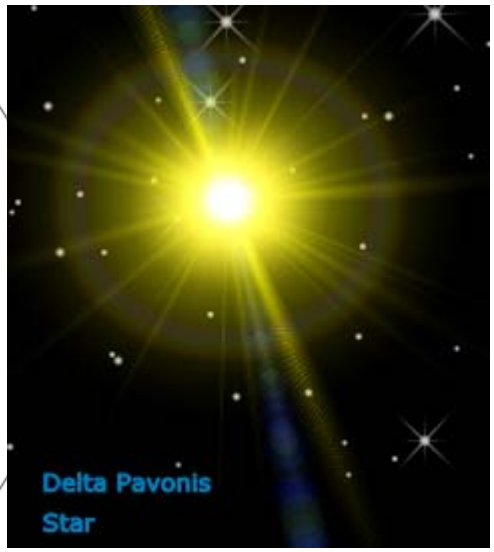
The fact is, the vast majority of our people are living like animals, in discarded packing crates and tarpaper shacks. These were the best and brightest Nigerians who came here forty years ago to found this colony. Batteries of tests were employed, certificates were examined, and backgrounds double checked, We were to be the guiding light for our brothers and sisters on Earth, yet now we find ourselves gripped in the same oppressive, grinding poverty that we fled. How did this happen?

From the diary of Iolanda Jameson Reed, August 20, 2004

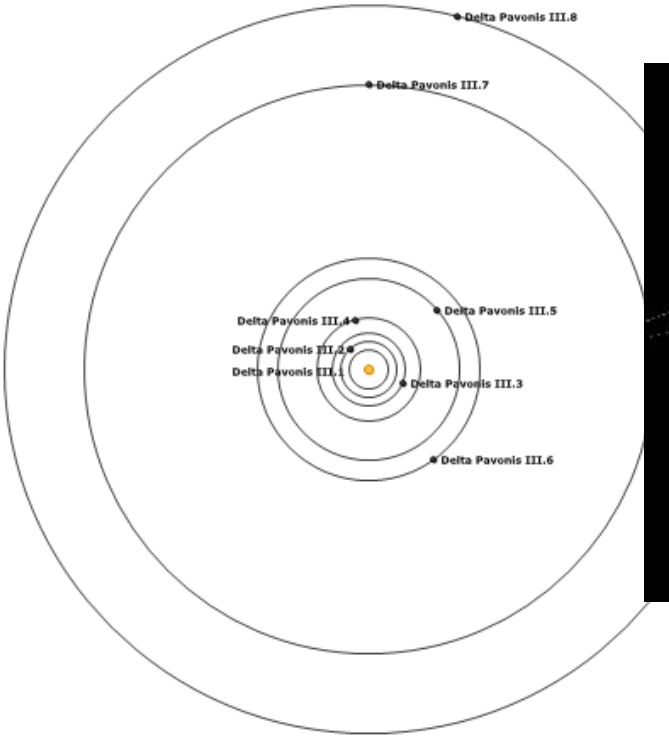
We went into the Negril market this morning. Jenny, Harvey and I were enchanted by the lovely arts and crafts the Cockpit people had created, and especially the creatures sold as pets. Jenny found this little monkey thing called a poopoo - about three inches tall with a long tail. Harvey and I had to get one too - they are soo precious! Harvey found some amazing reggae bands here - he swears he's going to bring the MP3s back to Roosevelt and make them all famous! I have to admit the bands are really fantastic. I had thought reggae died out when Jamaica was destroyed by the tsunamis, but it's alive and well here!

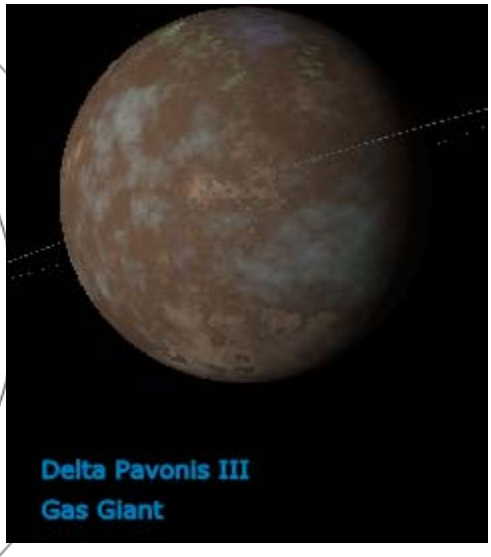
Delta Pavonis
Star System Diagram



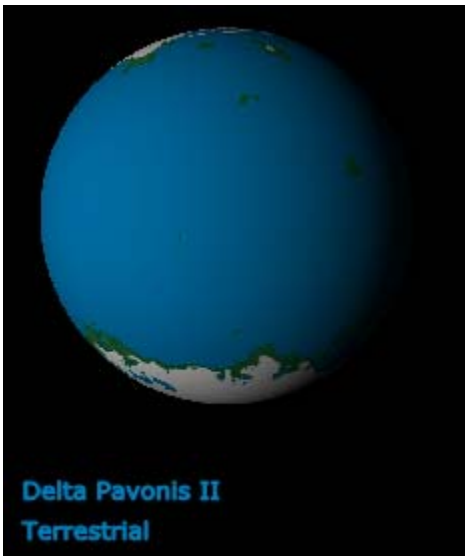


Delta Pavonis III
System Diagram





Delta Pavonis II



Orbit Number: 3
Temperature: A bit cooler than Earth, but very comfortable.
Gravity: Somewhat heavy. You gain 1.7 lbs/kgs for every 10.
Atmosphere: Very Earthlike, with more oxygen and a lot of argon.
Native Life: Rich in plants, but few animals beyond invertibrates.
Minerals: Metals rich.
Habitability: Superb. Extraordinarily Earth-like.
Population: 1,028,000
Distance from Sol: 19.9 LY

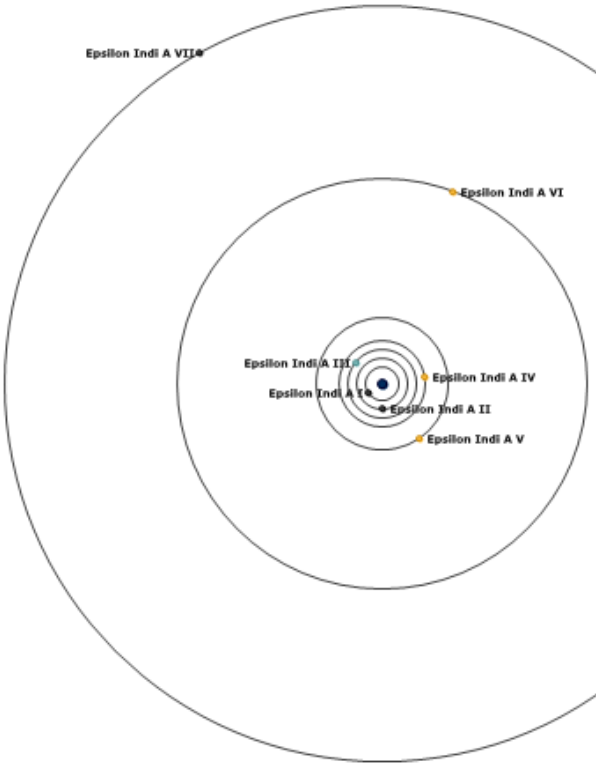
From the private log of Captain Asa Hawkins, March 20, 2002

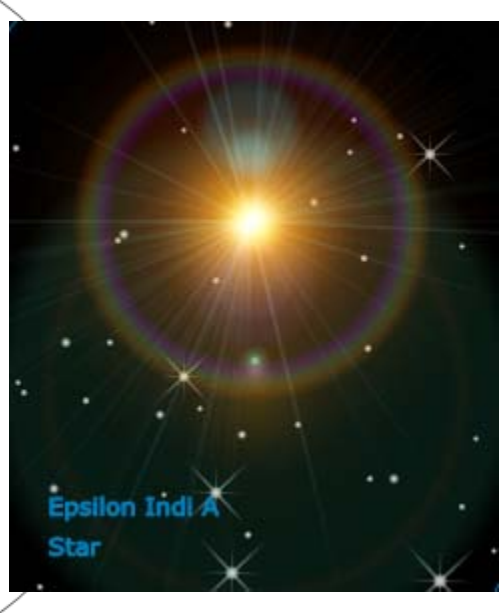
I set the Comet down in Pavonis Port, the new spaceport city built since I'd been here last. Pavonis is a prosperous colony - so we were bringing curiosities from other worlds rather than metals or food. We got a buyer right away for the poopoos and gundies from Cockpit, they are a big draw. Cute and unusual pets usually sell here. The clothing from Baikal seemed to go over well too, but the curious minerals from Chelyabinsk went over like lead balloons.

After some dickering in the market, we picked up some computers - they should sell well in various ports. Pavonis has several well known computer manufacturers - Apple, Commodore, and Dell have big plants and I always pick up computers here. Looking around the new port was interesting. The big cargo handling facilities are much better than the old setup, but i miss the smoky little dives of the old Space City port. It was more conducive to making - special deals. Here I felt all exposed.

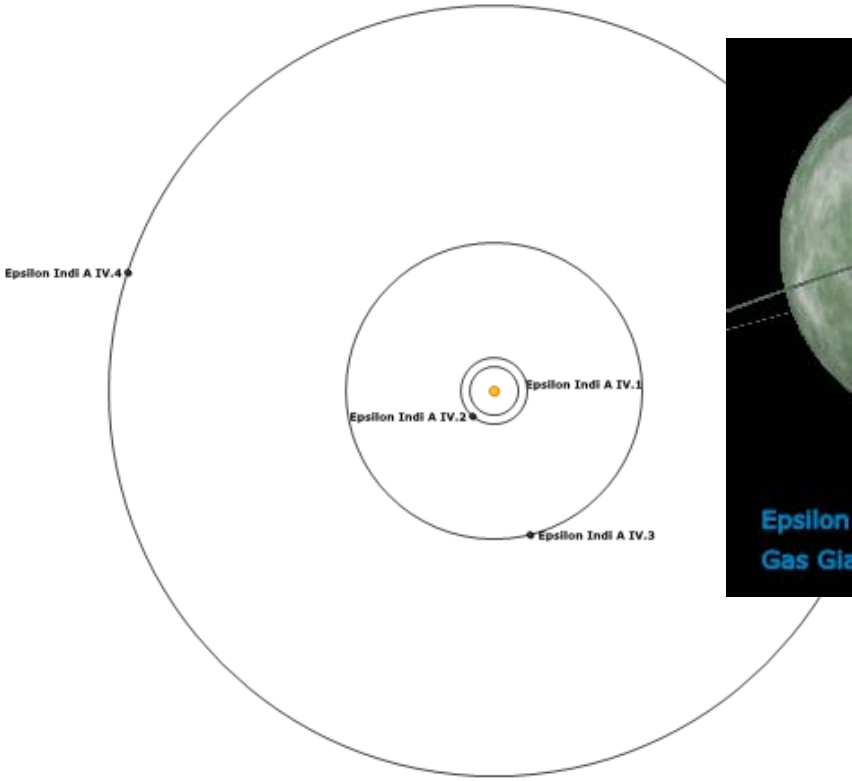
I think that was intentional on the part of the port designers. Things in the more prosperous colonies have tightened up a lot since the comet. Hopefully the smaller ports stay more flexible. Some cargo needs smoky little dives to handle properly.

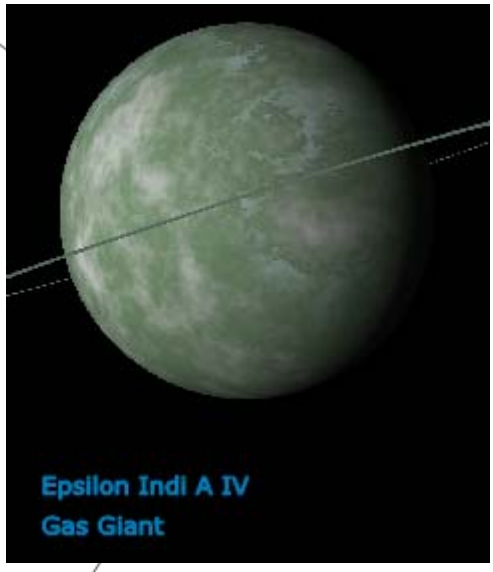
Epsilon Indi A
Star System Diagram



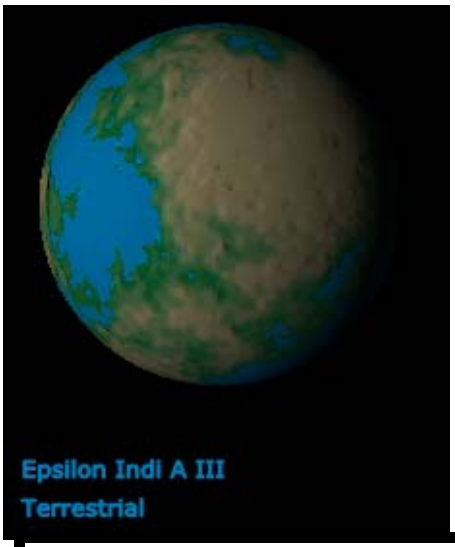


Epsilon Indi A IV
System Diagram





Epsilon Indi A III



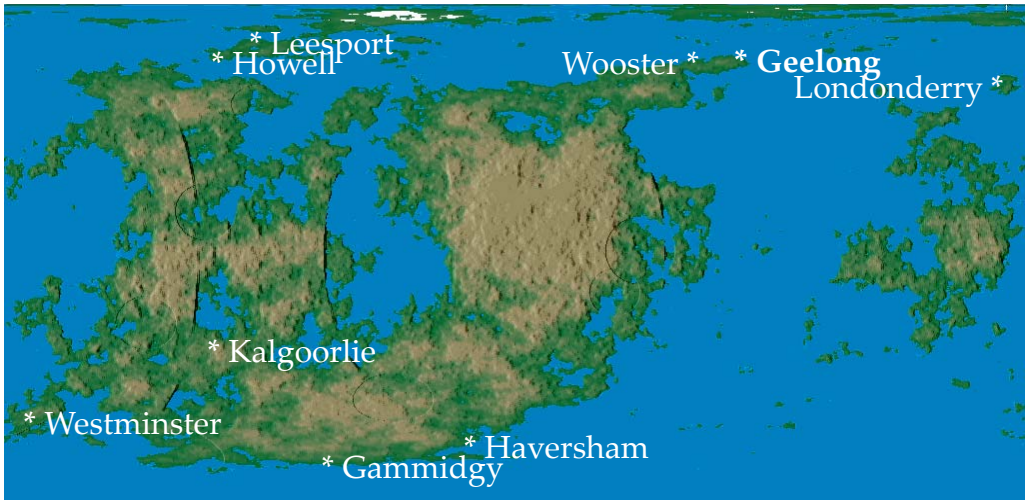
Orbit Number: 1
Temperature: Hot and somewhat dry.
Gravity: Somewhat less than Earth. 100 lbs/kgs weighs 86 here.
Atmosphere: Thin, but breathable. Lots of Neon.
Native Life: Many and varied plants and animals, not very Earth-like.x Lots of incompatible proteins and some heavy metal uptake.
Minerals: Rich, especially in radioactives.
Habitability: Very good, especially in the polar regions.
Population: 182,000
Distance from Sol: 11.8 LY

From the private log of Captain Asa Hawkins, June 15, 2002

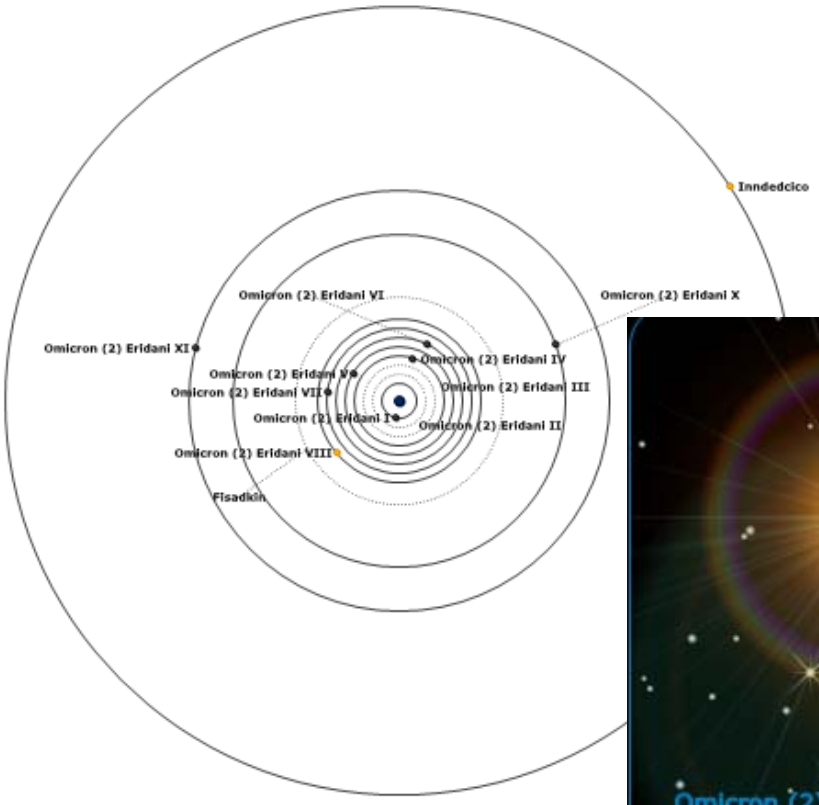
Geelong is my favorite port, the wet and dank weather conspires with the dilapidated buildings to give the place real atmosphere. I suited up in a slicker and braved the pouring rain and orange lightning to walk down to the Blue Parrot. The man I was looking for was there - tall, bald, and scarred on the left side of his face. He was sitting in an alcove drinking some kind of blue drink with a stunning red haired lass of about half his age. I pulled up a chair and slid the slicker off. "You Hobart?" I said, knowing the answer.

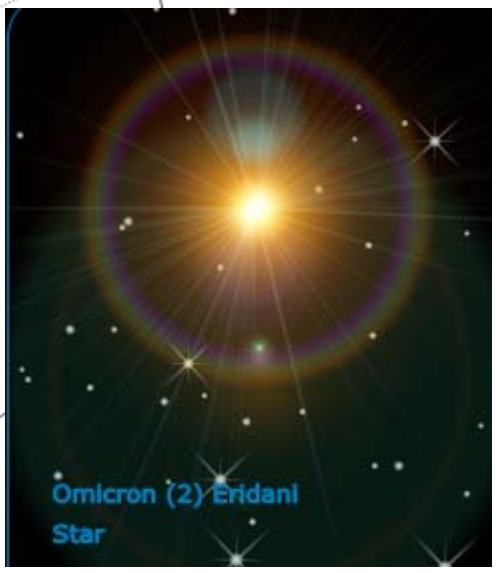
He just grunted. "You got the gold?" he says in a raw, scraping voice. I nod and pass him the pouch under the table. The girl grins at me and runs her tongue over her lips. They were very pink and wet looking. Hobart pulls a few coins out and looks at them. "Ladysmith," I say, "recent minting." He nods and examines them a bit more before putting them back in the bag. The girl was playing footsie with me under the table, running her toes up my leg. Talented gal, that one.

He passes another pouch back. "Here you go, Mr. James. Kalgoorlie Coal, as specified. Pleasure doing business with you." He and the girl got up and left. I almost got up myself, but there was something hard tucked next to my crotch. A hotel key and a note, saying only "midnight." "This could be interesting," I thought.

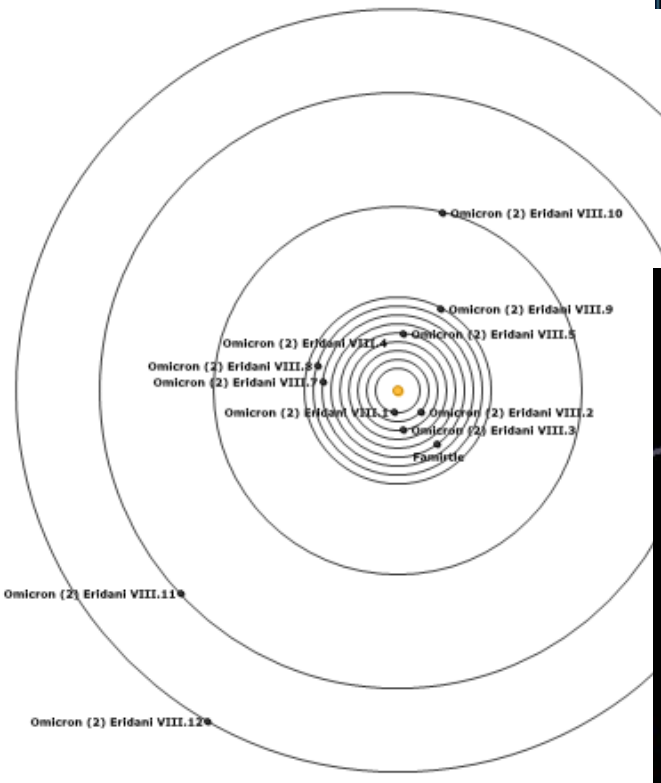


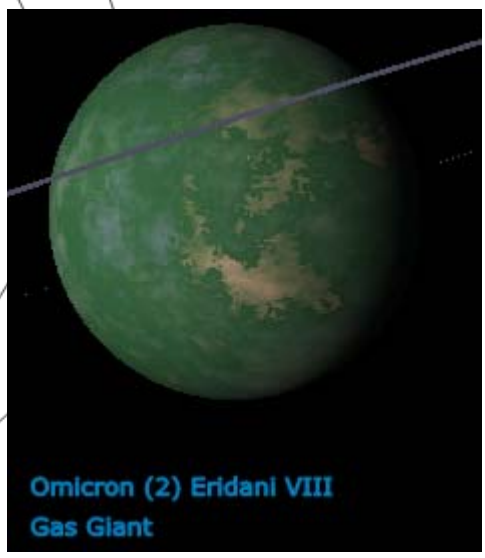
Omicron (2) Eridani
Star System Diagram



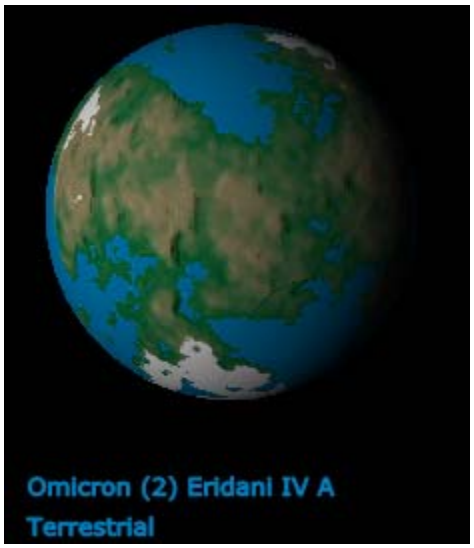


Omicron (2) Eridani VIII
System Diagram





Omicron (2) Eridani IV A



Orbit Number: 1 (Orbits Omicron (2) Eridani IV B)
Temperature: Somewhat cool.
Gravity: Almost identical to Earth.
Atmosphere: Very Earthlike.
Native Life: Lots of animals and plants in many ecological niches.
Minerals: Rich, especially in gold and palladium.
Habitability: Superb. Very Earthlike.
Population: 678,000
Distance from Sol:16.5 LY

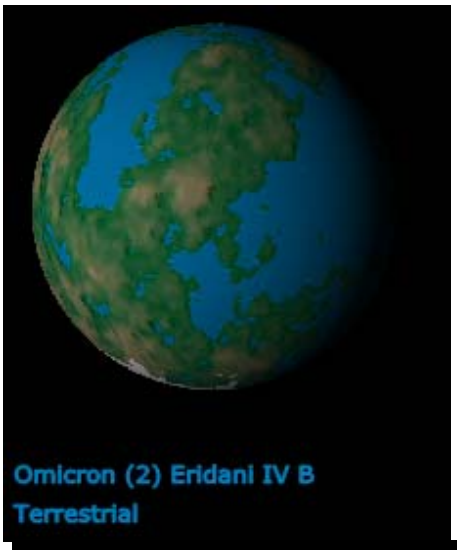
From the journal of Michael Bedford, July 5, 2003

Whoa - last night totally rocked! Gina and me spent the first part of the night partying at the Danceland club, an oxygen bar in Sprague. Gina always loved disco, and it's still way popular in Petersen Colony! Me, I'm more into alternative, but it was a blast dancing like that. They have a drug here called Activa that is distilled from a plant native to the tropics. We were tanked on Activa and our feet never got tired.

Then we went out walking along the river. Sprague is built along a huge river - like the Mississippi on Earth, they say, though I've never seen it. We had some roasted sears roebuck at a place called "Luther's Grill." It was tasty, I guess, but a bit gamey. Gina just nibbled hers. The weird thing was when the waiter said "Our specialty is sears roebuck," he added "I didn't name it!" like it was some kinda joke. Neither of us got it.

The fireworks were awesome! They shot them off a floating contragrav barge, and they were streaking in all directions. We went back to Danceland for more partying, then ended up at the spaceport as dawn was breaking. we stumbled into the yacht, laughing like hyenas. What a day!

Omicron (2) Eridani IV B



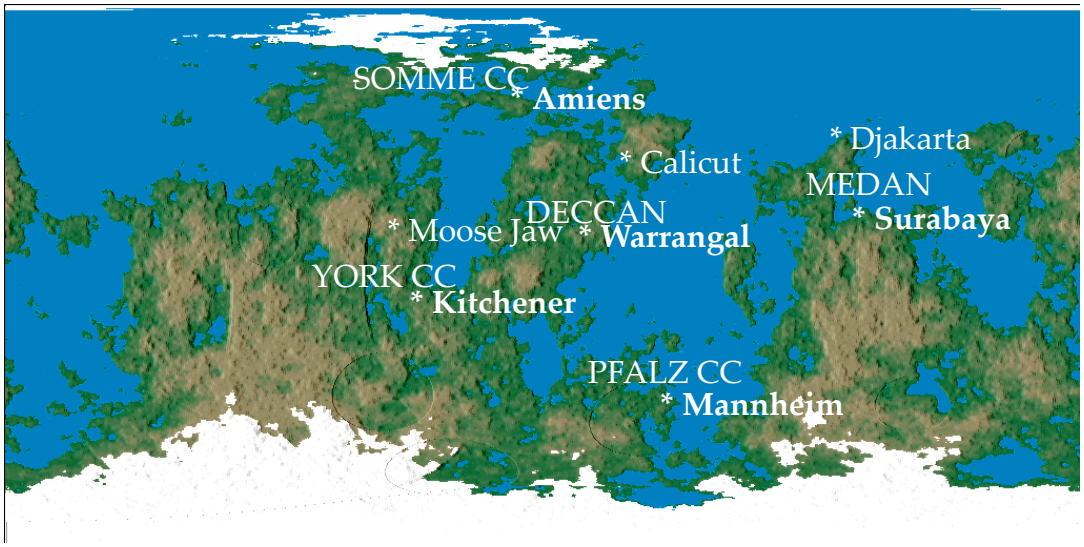
Orbit Number: 1 (Orbits Omicron (2) Eridani IV A)
Temperature: Warm and summery.
Gravity: Almost identical to Earth.
Atmosphere: Very Earthlike.
Native Life: Lots of animals and plants in many ecological niches.
Minerals: Rich, especially in gold and palladium.
Habitability: Superb. Very Earthlike.
Population: 301,000
Distance from Sol: 16.5 LY

From an email by Trudy Hoffner to her pen pal Ajit Singh, November 13. 2004

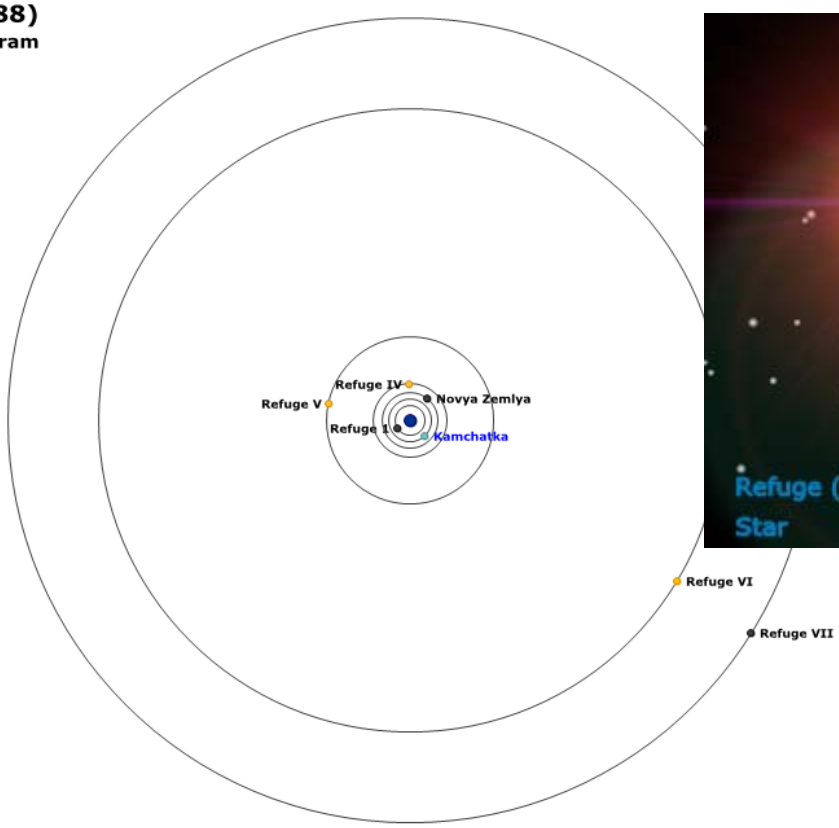
Have you ever been to the spaceport in Warrangal? The port in Kitchener is small, but busy. I saw cargo ships form all over the Oikumene, a lighter from a huge freighter too big to land, and a Maple Leaf liner unloading passengers from Tau Ceti. There was nothing from Earth, but I did see a couple cargo ships from the Lunar Free State - that's close, right? How is your sister, Deepali? Is she over the infection? I hope everything is OK.

From an email by Ajit Sing to his pen pal Trudy Hoffner, November 14, 2004

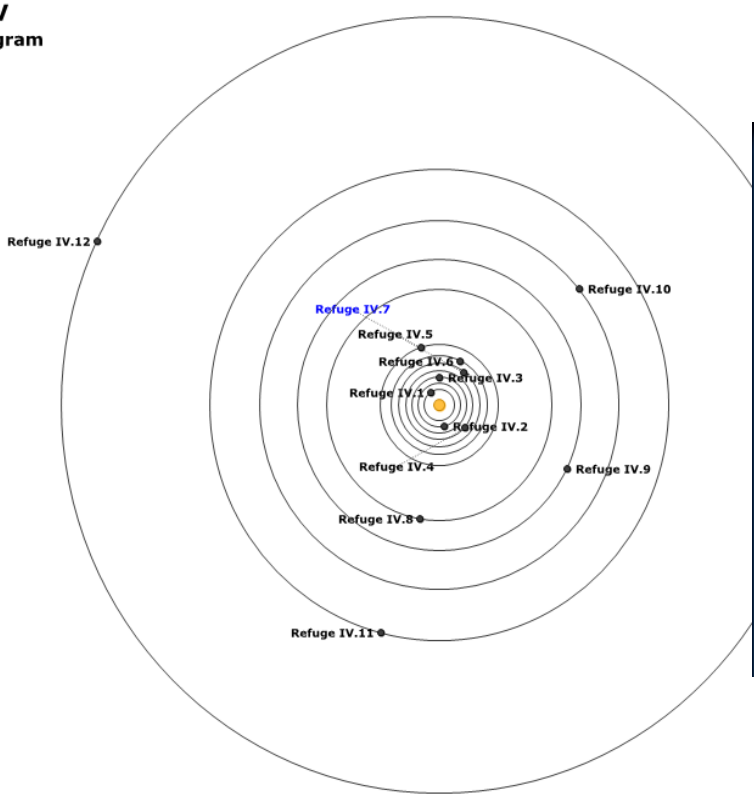
Deepali is recovering nicely, now that her condition is cured. As happens, her condition was due to a parasitic infection rather than an infection. There is much we do not know about the small organisms on this planet - we all seem to have assumed we would not be vulnerable to them, that they would not adapt to us as we have adapted to them. Such is not the case, friend Trudy. I have not been to the spaceport since I was a child, as there is very little traffic. India is gone for the most part as a civilized nation, and now all of our trade is with the other colonies and nations of this planet. There are weeds growing in the cracks of the concrete of the landing pads, and the few ships that come are not so exotic as yours. Such is life.

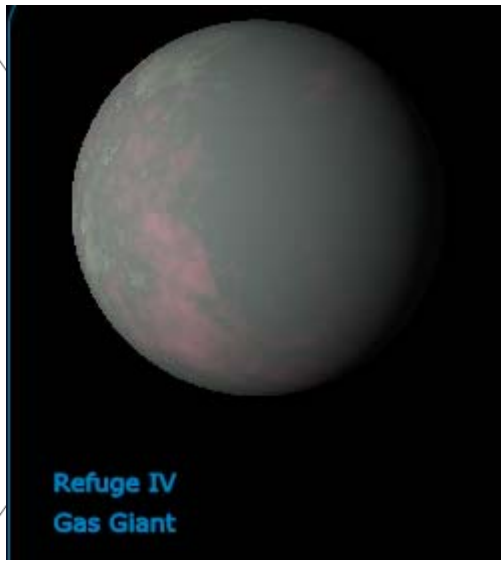


Refuge (GJ 588)
Star System Diagram

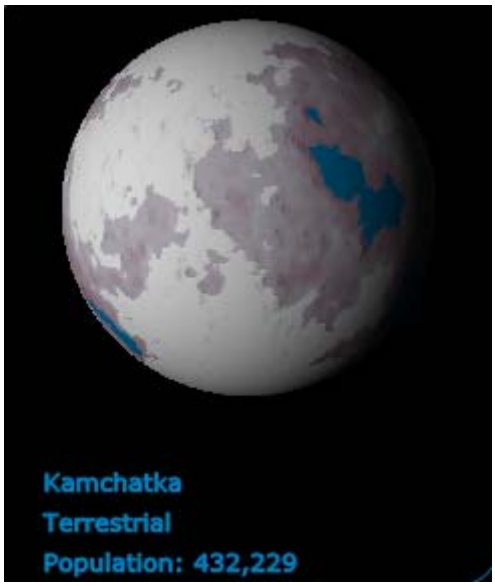


Refuge IV
System Diagram





Kamchatka

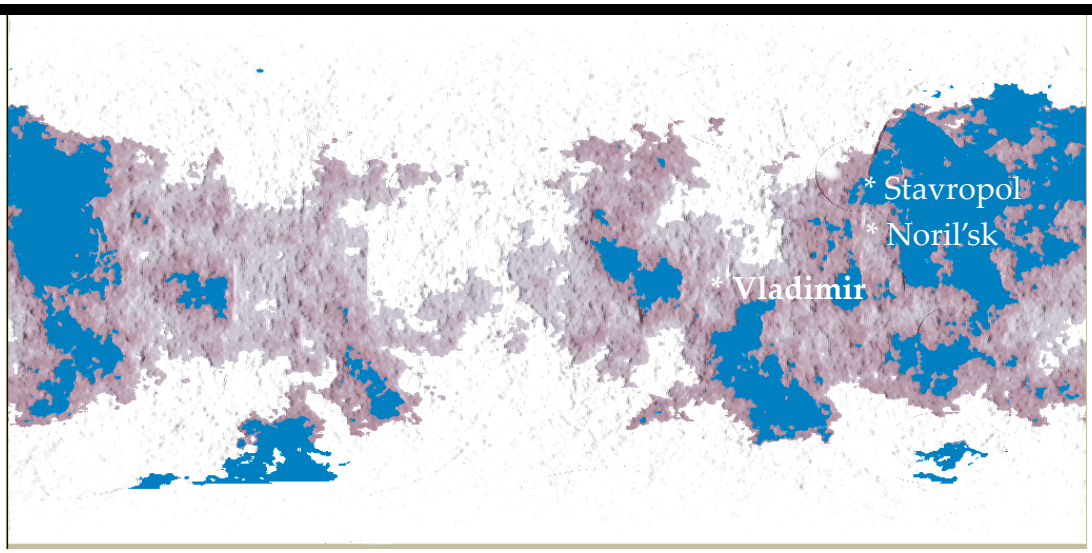


Orbit Number: 1
Temperature: Cooler than Earth, but large areas are ice free.
Gravity: Very light - about a third of Earth's
Atmosphere: Thin, but lots of oxygen, so respirators are not needed. A definite sulphur tang and high CO2 levels make filters recommended.
Native Life: Native plant life, none exploitable, and no animal life makes imported species from Barnard's Star and the Andropov/Bresznev dual planets vital.
Minerals: Rich in aluminum and beryllium
Habitability: Good - richly oxygenated atmosphere offsets thinness of atmosphere. Warm enough for agriculture in the tropics.
Population: 462,000
Distance from Sol: 19.4 LY

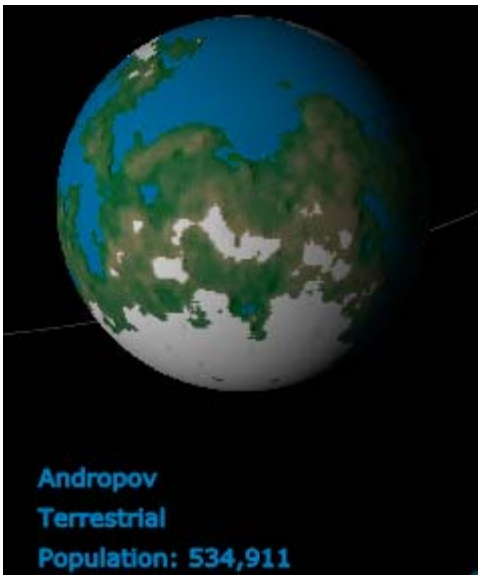
Report from Refuge Defector Vassily Petrovich Andreev

Was on Kamchatka for three years, stationed in Stavropol. Was big VKS base there - still is, probably. Stavropol was military town, most people serve on base or supply military. Worked in nuclear engine shop for two years, then to ship maintenance. Engine shop was dangerous. Four workers died from radiation poisoning while self was there. Was breakdown in containment. New particle and fluidized bed engines were just coming on line, and ships coming in for refurbishing were being modernized. Old engines dumped into ocean. Not knowing what else to do.

Stayed in Vladimir on leave twice. Was pretty city. Long boulevards with trees from Andropov, with nice new buildings on either side. Girls were easy there. One sight of VKS uniform and they fall over. Had wonderful time. Many girls working in government, have own apartments. Partied with girl named Olga for two weeks on second leave, was not sober whole time. All food plants on Kamchatka come from Old Refuge or from Andropov and Bresznev - but grow well on planet. Plenty of food if you like tubers and Stary Kale.



Andropov



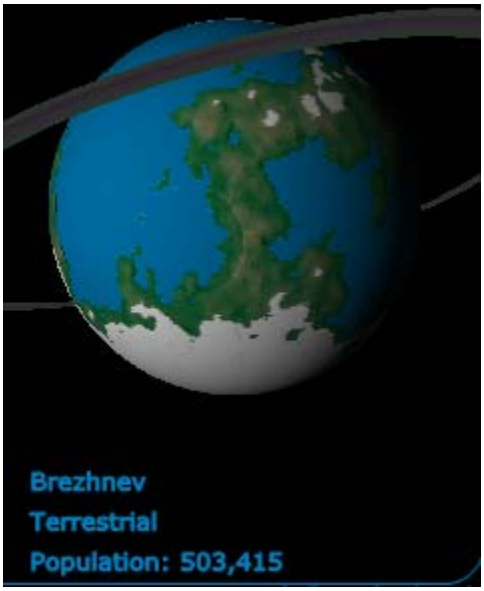
Orbit Number: 1
Temperature: Pleasantly cool. Large ice sheets dominate the polar regions.
Gravity: Very slightly less than earth - noticeable differences.
Atmosphere: Very heavy, dry atmosphere with a huge amount of helium. Oxygen partial pressure is almost too high. Fires are dangerous. Little nitrogen available from the atmosphere.
Native Life: Many and varied, with both plant and animal life exploitable. Domestication ongoing.
Minerals: Andropov is huge but extraordinarily light. Aluminum and other light metals available, but not abundant.
Habitability: Good, but lack of heavy metal and nitrogen are problems.
Population: 535,000
Distance from Sol: 19.4 LY

Report from Refuge Defector Vassily Petrovich Andreev

Was born on Andropov, one of first children born on new colony. Prettiest planet in Refuge system. Father was in NKVD, mother worked in tractor factory. Home town was Bryansk, small city on Equator. Joined VKS when graduated from technical school - was patriotic duty. Big party chiefs came when self was eight, in huge Lenin class ships which stayed in system. Remember seeing lighter after lighter coming down, full of people and much plunder from old Soviet Union. Was frightening for young boy.

Father was purged in 2001. Mother drank self to death two years later. Not wanting to know details. Father was not traitor, was just caught in political squeeze. Was questioned by ship's commissar, but had nothing to do with me. Self hid feelings well. Was engineer on Grozny at time - small missile frigate. Captain was removed, and new captain came onboard, more politically in tune. Political association everything in Refuge. Money was nothing. Nothing to buy! Need ration cards, not money.

Bresznev



Orbit Number: 1
Temperature: Pleasantly cool. Large ice sheets dominate the polar regions.
Gravity: Just over half Earth normal.
Atmosphere: Thick and nitrogen rich, with lots of argon and krypton.
Native Life: Many and varied, with both plant and animal life exploitable. Domestication ongoing.
Minerals: Bresznev is large but even lighter than Andropov. Aluminum and other light metals available, but not abundant.
Habitability: Excellent, better than Andropov. The large proportion of nitrogen in the atmosphere allows Bresznev to export nitrogen based fertilizer to Andropov. Bresznev has a striking dark ring.
Population: 503,000
Distance from Sol: 19.4 LY

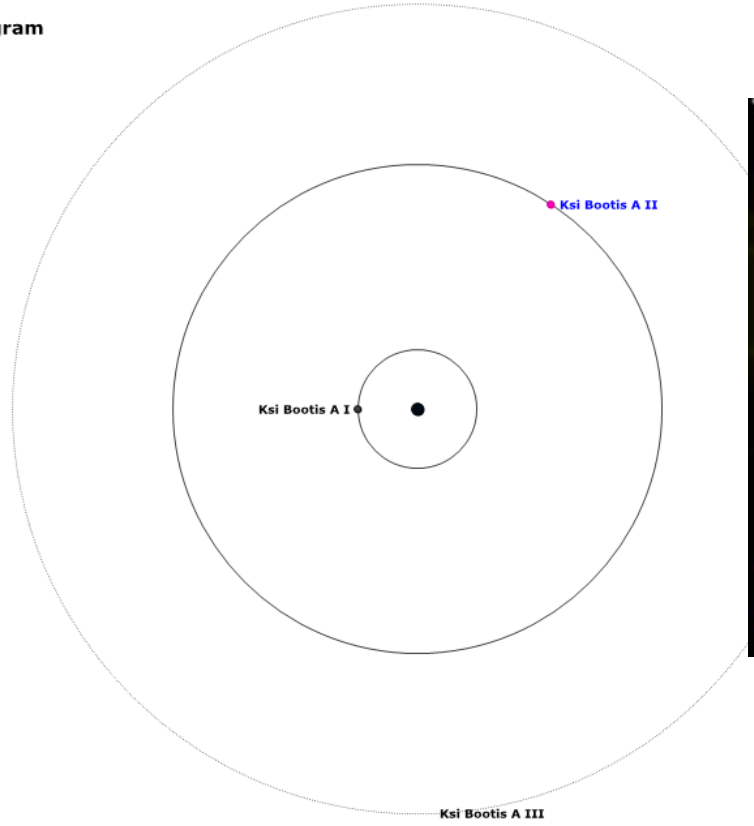
Report from Refuge Defector Vassily Petrovich Andreev

Was on Bresznev three times. Twice with Grozny, once when self was with Beria - big cruiser which self was on when defected at Elara. When self was with Grozny, went to spaceship yards where new ships constructed. Yard was near Pskov, not know where. Was building frigate like Grozny, asked questions about particle bed reactor. Much better than old NERVA engines - safer and easier to service and refuel.

Had leave at Karolyov - girls there have too much VKS men prowling around - never looked at self twice. Spent leave in bars. Want to know about Karolyev Bars? Can tell lots of stories. Was arrested twice for drinking, but Captain fished self out of jail with no problems.

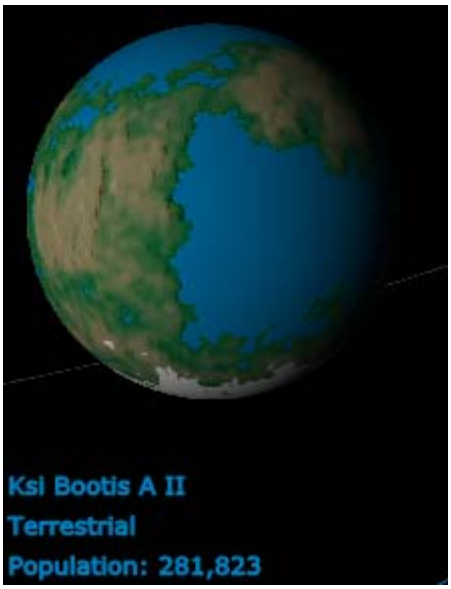
Had leave in Orlyov once. Girls friendlier there. Met girls named Eva and Elena. Were blonde twins from Russia. Could not tell them apart except Eva had mole in interesting place. If ever go on leave on Bresznev, go to Orlyev. Will have fine time, guarantee! Look up Eva and Alena and bring lots of Vodka.

Ksi Bootis A
Star System Diagram



Ksi Bootis A has no gas giant to use for slingshot boosts and braking. Ksi Bootis B, however, does, and Ksi Bootis B is centered on orbit 7 of the Ksi Bootis A system. The best way into KSi Bootis A, then, is braking into Ksi Bootis B at B IV in Orbit 3, refueling at Ksi Bootis B IV.20 or.21, and transiting through to Ksi Bootis A II. As a consequence, Ksi Bootis A II is somewhat isolated.

Ksi Bootis A II

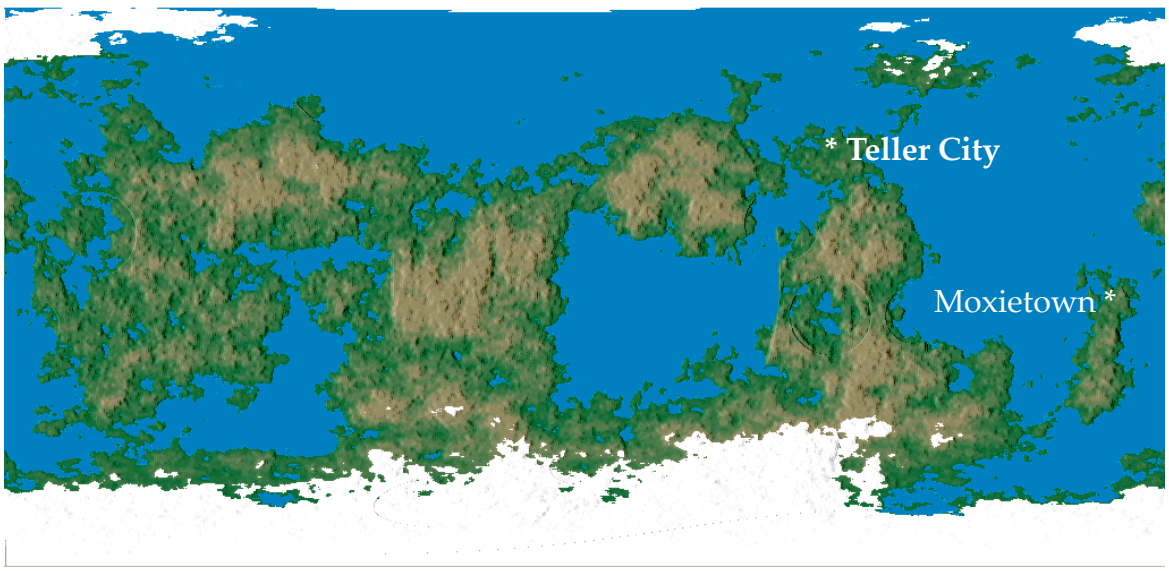


Orbit Number: 3
Temperature: Warm to hot. The tropics are very hot.
Gravity: Very close to Earth normal.
Atmosphere: Somewhat thinner than Earth. High ratio of sulphur in the air means use of filter masks are desirable to avoid irritation.
Native Life: Many species of both flora and fauna, some flora exploitable. Fauna mostly has incompatible proteins.
Minerals: Good availability. Copper and nickel are exported.
Habitability: Very good.
Population: 282,000
Distance from Sol: 21.9 LY

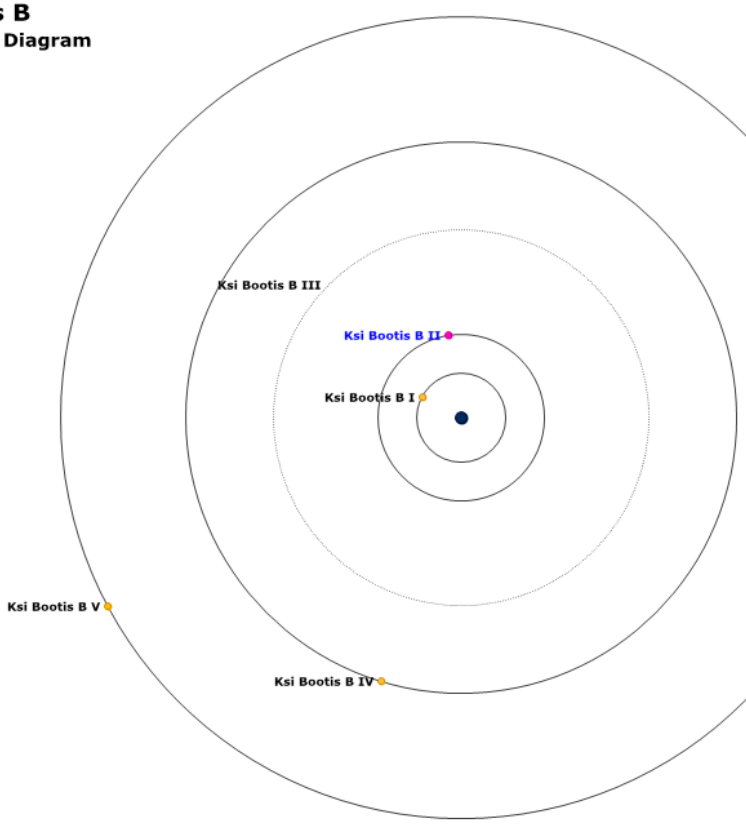
From the private log of Captain Asa Hawkins, November 2, 2002

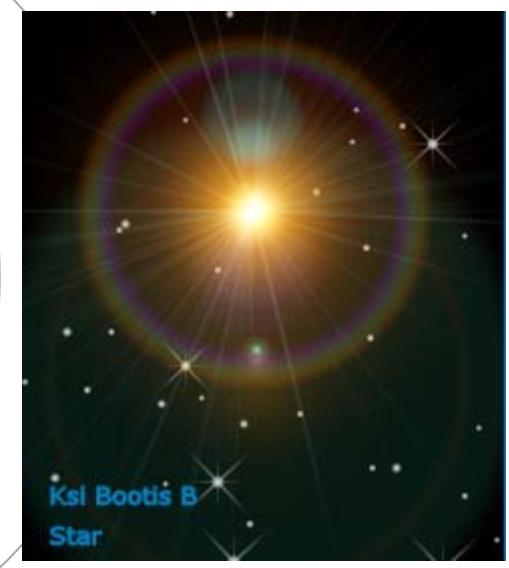
If I didn't like this place so much, I think I'd hate it. It's a pain to get to - you have to go into the Ksi Bootis B system, refuel at Warhol or U Thant, whichever is closer, then boost out to A. Takes forever, and usually isn't worth it unless you have something for the colonies around B as well. What I love about this place is the wild frontier feel. This place was colonized in the last wave before Earth got whacked, and it shows. They brought in as little complex machinery as possible, relying on animals and wind power. Feels like a western movie sometimes.

We set the Comet down at Teller City spaceport. It's the only one capable of handling heavy cargo - the port at Moxietown is more like a shuttleport. Fooling the customs was easy. They looked where they were supposed to - at the computers we were shipping in - and missed the good stuff. After customs left, we got the packages out of the air circulation shafts and slipped them into the Milky Way Bar. Small, untracable gems changed hands, and we loaded up our legit load of Nickel. Slip in, slip out, make money.

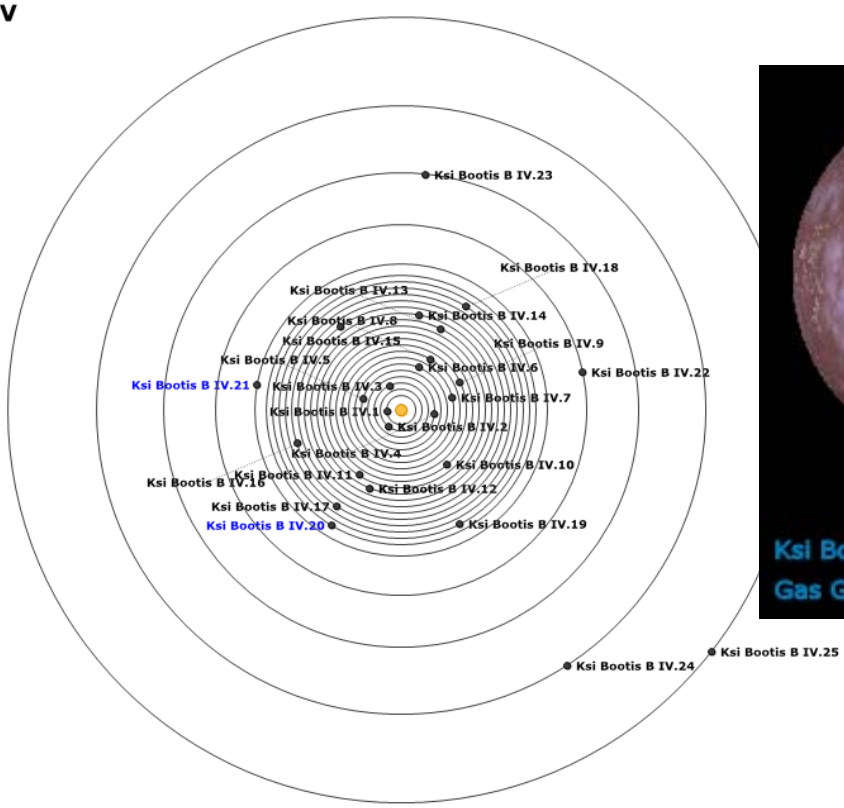


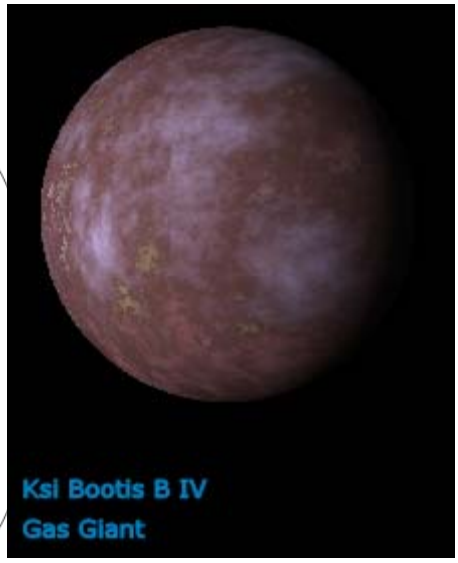
Ksi Bootis B
Star System Diagram



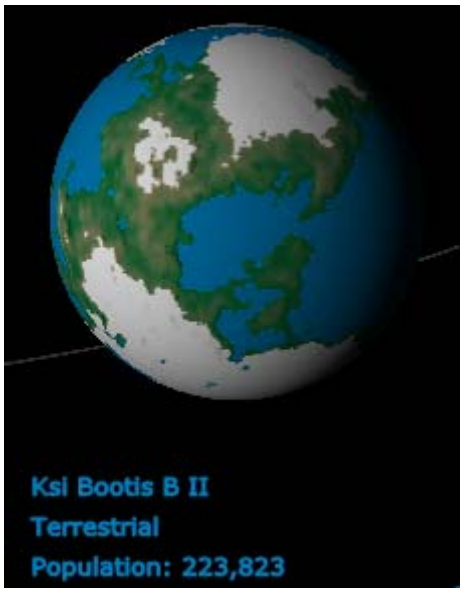


Ksi Bootis B IV
System Diagram





Ksi Boolis B II



Orbit Number: 1
Temperature: Cool to cold.
Gravity: Three-quarters that of Earth. Lose 25 lbs/kgs per 100.
Atmosphere: Somewhat thick. Lots of argon and xenon.
Native Life: Plentiful and varied. All species are earthlike, with a high proportion of exploitable species.
Minerals: Earthlike distribution of metals.
Habitability: Excellent
Population: 224,000
Distance from Sol: 21.9 LY

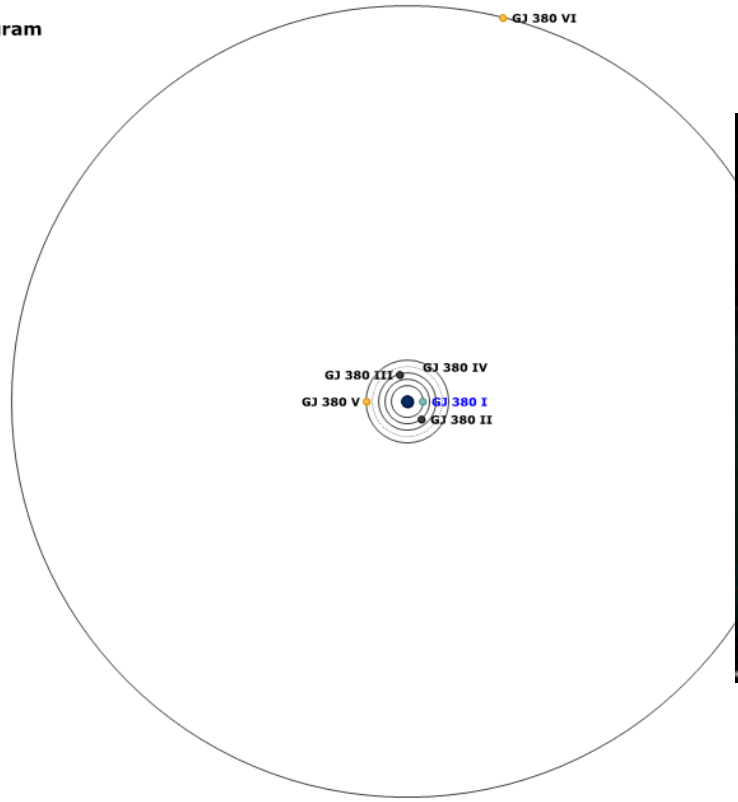
From the private log of Captain Asa Hawkins, December 3, 2002

I set the Comet down at Trincomalee Spaceport, with a load of machine tools for the poor orphaned Sinhalese colony there. Since the Earth got wiped, the colonies here are in a bad way - all of the non-EU colonies wither trying to go it alone or appealing to the UN for help. This load was bought with UN money, and the outgoing load of spices and rice was subsidized as well. I'm not sure this is the right way to approach this, but that's the UN's lookout.

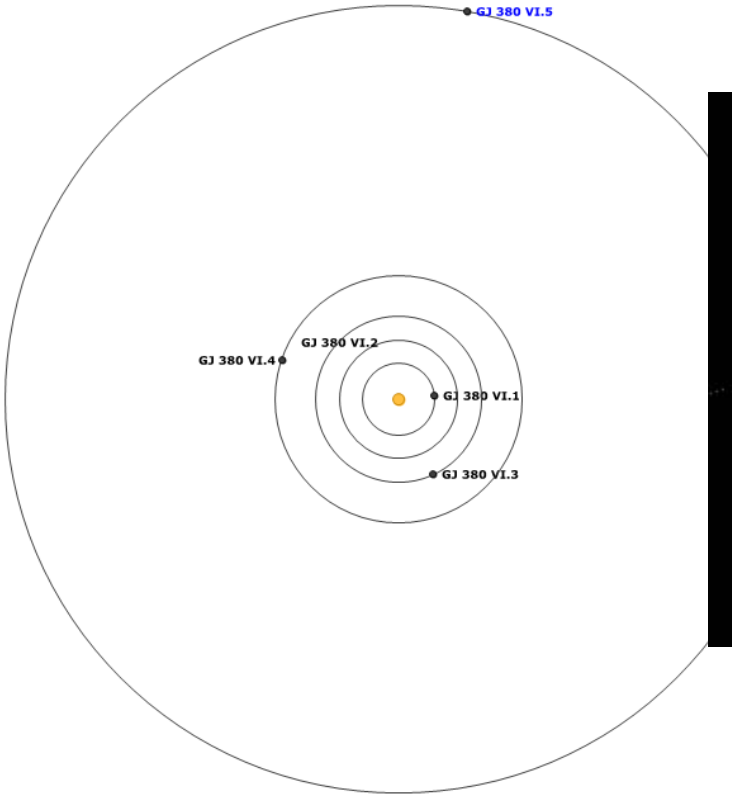
The crew and I spent the layover at the Trincomalee House, a nice hotel with hot and cold running maids, all of them young and pretty. We'd stayed here before, and they knew us, so the rooms were full of heavy, unbreakable furniture. The food was, as usual, fantastic, and hot as blazes. There was a native rabbit thing that they stewed up that blew my mind and my tonsils out.

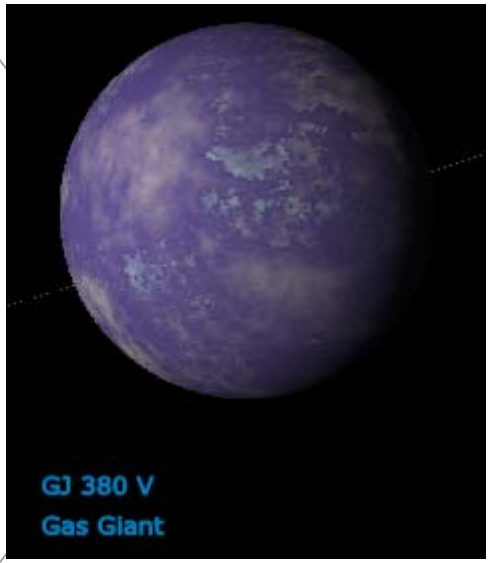
The people of Trincomalee are the nicest folks, and I wish them the best. I hope they've picked the right direction with the UN. Time will tell.

GJ 380
Star System Diagram



GJ 380 V
System Diagram





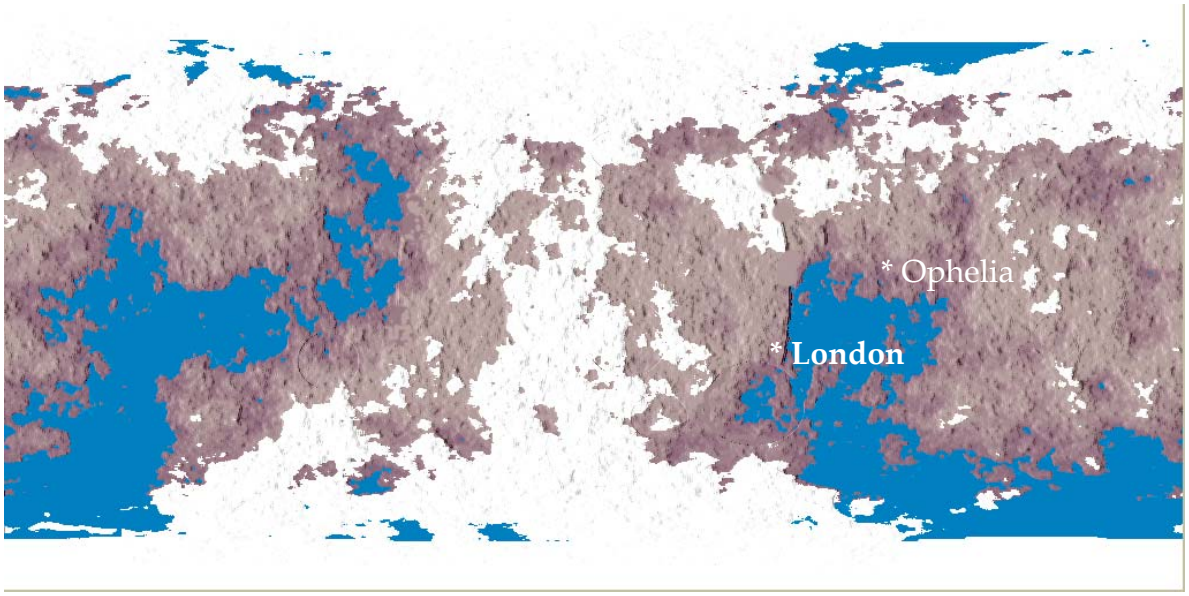
GJ 380 I

Orbit Number: 1
Temperature: Earthlike, but dry over most of the planet.
Gravity: Four tenths of Earth. 100 kilos weighs 44.
Atmosphere: Thin, with lots of oxygen. Breathable.
Native Life: Some simple sea life and land plants. Several sea invertebrates are edible. Cultivation is under way.
Minerals: Nothing more than small local quality sources.
Habitability: Good to very good. Dryness is the big drawback.
Population: 101,000
Distance from Sol: 15.9 LY

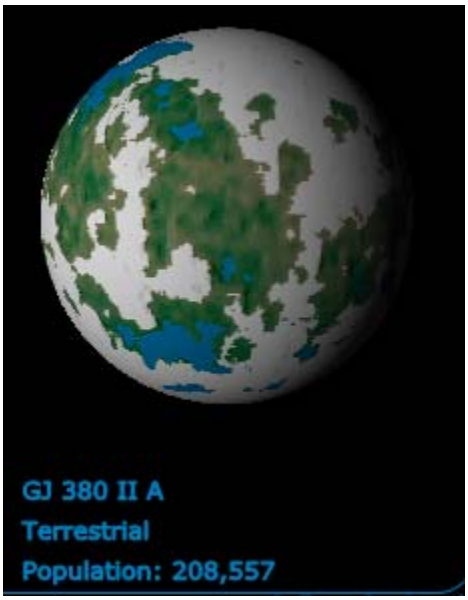
From a letter of Anne Harris Brown to her brother George, April 5 2006

Sixteen years ago, my husband Ransom and I came to this planet, full of hope and steadfast in our resolution to build a new world. We were issued a deed to a patch of scrubland about a mile out from town, which we pretentiously named Sublime Estates. The first couple of years were hard, bl--dy hard, especially after young Ransom was born. and I couldn't help as much as I used to. We uses to spread our garbage and night soil on the least fertile ground and let it rot to make new soil. It reeked, but it worked. The land under cultivation grew.

Slowly as the years wore on, and first Lily and then George were born, the farm became profitable. Civilisation reached us after the tenth year, as the road to London was paved with macadam, and electrical wires brought us onto the grid. We got new neighbors, the Landis' and the Frenches, and things seemed good. Then that horrible comet hit Earth. Ransom volunteered to go back as an angel, and he was killed there in 2002 by some ruffian with a spear. It was ghastly! To think of a good man like Ransom being murdered by those he was trying to help!



GJ 380 II A

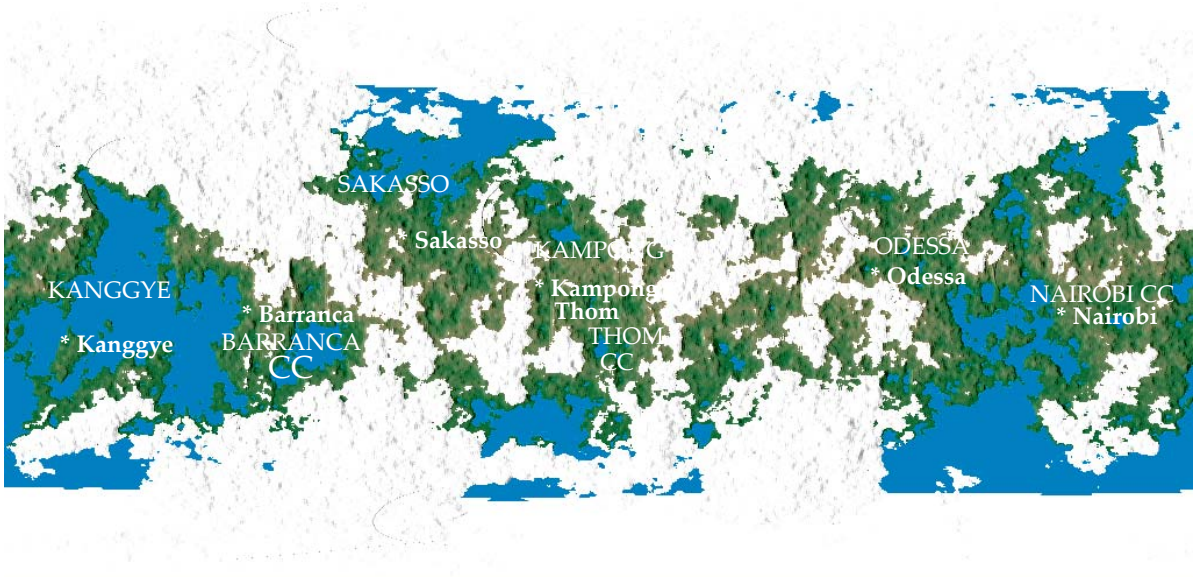


Orbit Number: 1
Temperature: Cool to cold, bracing. Heavy glaciation.
Gravity: Eight tenths of Earth. 100 kilos weighs 81.
Atmosphere: Slightly thin, but lots of oxygen.
Native Life: Lush. Highly developed land plants and animals, with many possibilities for exploitation.
Minerals: Moderate deposits of heavy metals, good light metal availability.
Habitability: Excellent. Prime colony world.
Population: 209,000
Distance from Sol: 15.9 LY

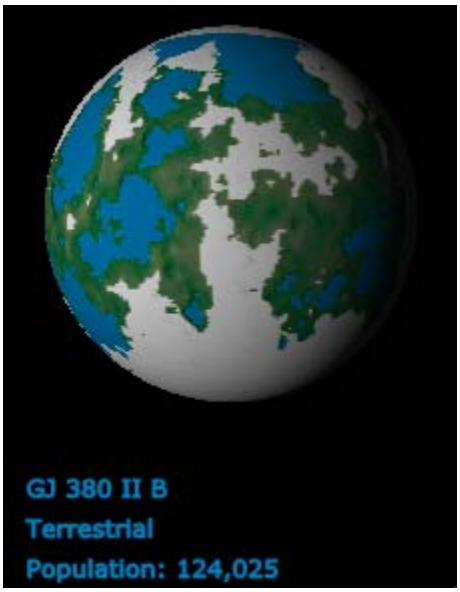
From inaugural address of President Yves Douhou, September 18, 2004

It is most assuredly for the best that this young but noble nation has divorced itself from the mother in Africa. For three long years, we have worked to restore the community we once so fondly enjoyed, but to no avail. The mother country she is destitute of civilization, wandering witless into savagery. We, on the other hand, have, by dint of hard work and sacrifice, sustained the light of freedom and reason, which, if God grants, we may hand back to the mother when proper time comes.

For twenty years we have been building this free nation, with our own hands from the stones. It has come to pass that the hand of God, working through the hands of terrorists, has seen it fit to smite the Earth from which we once came with afflictions scarcely to be bourne. It is our lot, as citizens of this new land, to choose the course to which we will adhere in the coming time. This course is of the primary importance in turning the shape of times to come.



GJ 380 II B

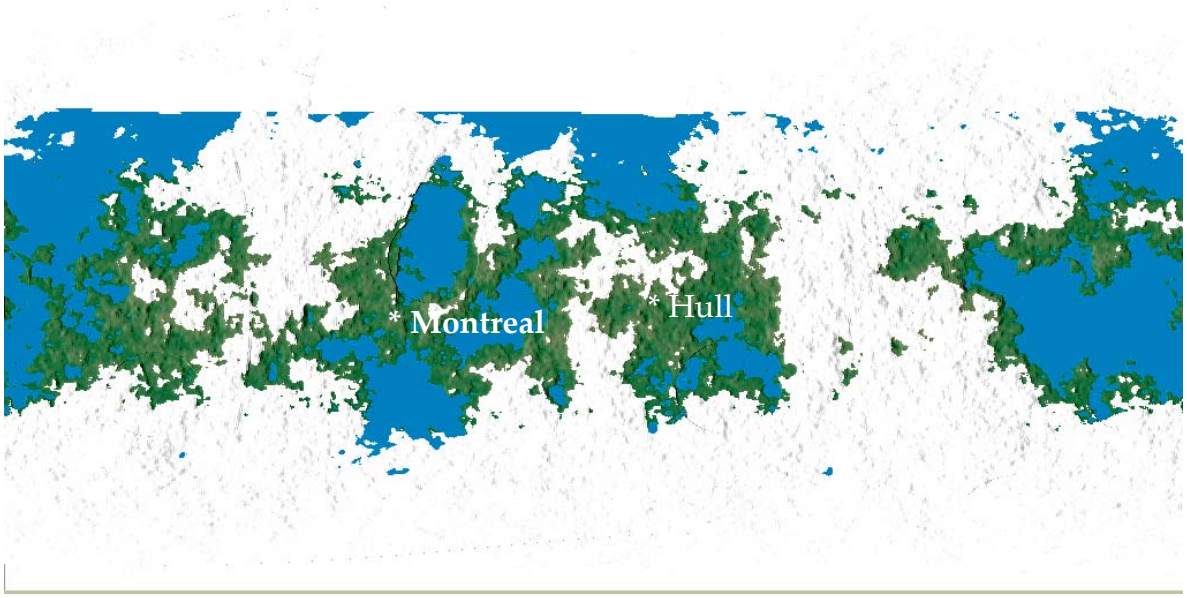


Orbit Number: 1
Temperature:
Gravity: Three quarters of Earth.
Atmosphere: Thin. Respirators highly recommended.
Native Life: Lush. Highly developed land plants and animals, with many possibilities for exploitation.
Minerals: Good, commercial grade deposits of heavy and light metals.
Habitability: Very good.
Population: 124,000
Distance from Sol: 15.9 LY

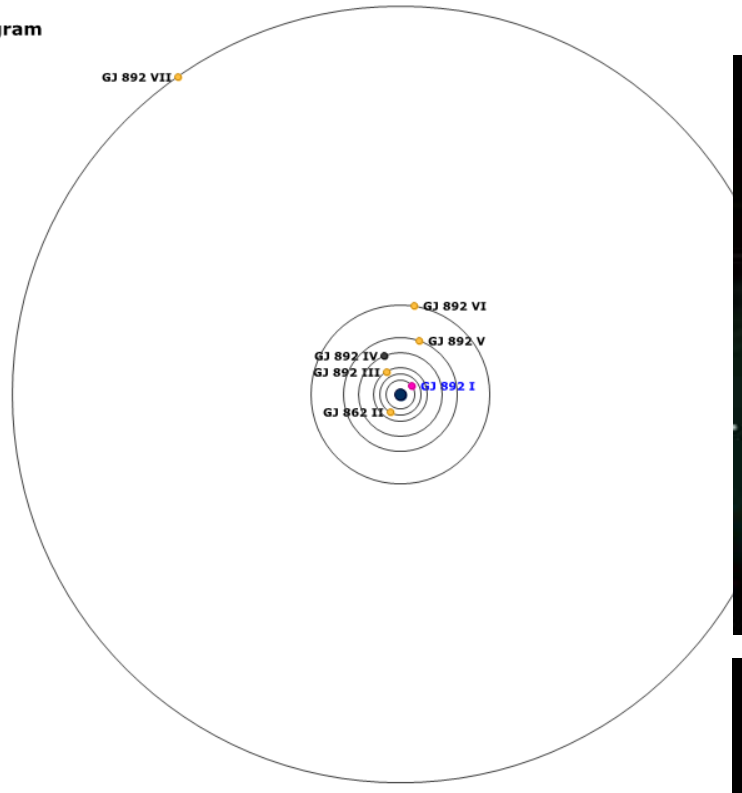
From the Montreal Ex-Press website, December 31, 2001

The year has been exceptionally bad for this little colony, with crop failures both in the Capital district and the Hull district. The new mines at Hull have failed to produce as planned, though geologists insist that all signs are there for a solid strike. Disaffection marred the latest elections, as some of the steadiest lights of previous years were replaced by untested neophytes. All in all a year to regard as the nadir of current colonial history.

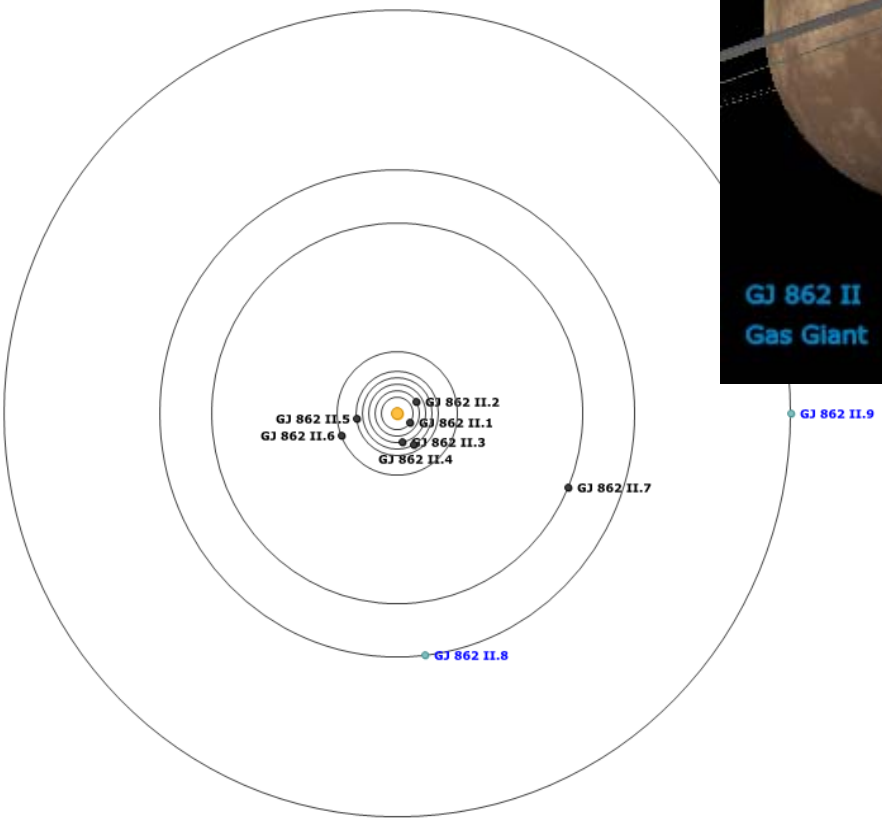
Yet there is so little track record to judge this by. Mrs. Simmons of Hull writes that her project of taming the indigenous Hoar Deer has proceeded well, and the Lathmore mine is producing well just to the north. In spite of the crop failures, and the urgent need to import food, the colonial debt actually diminished. Productivity in the Ford pilot plant in the capital has grown nicely, and cars are no longer the novelty they have been since founding. Perhaps instead this should be considered a banner year, one to look on as the final turning of the corner towards self-sufficiency. We believe that only time will tell, and look forward to the next year with hope and confidence.

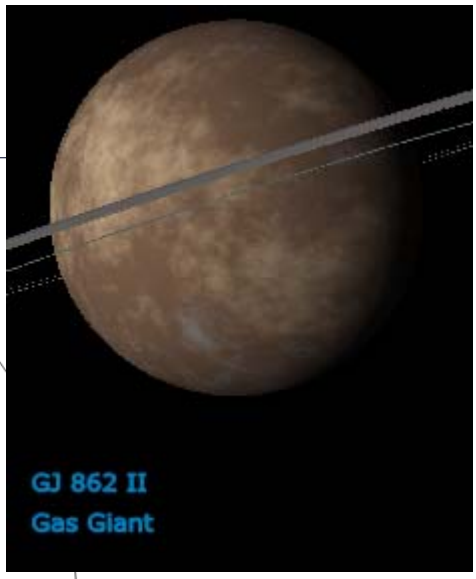


GJ 892
Star System Diagram

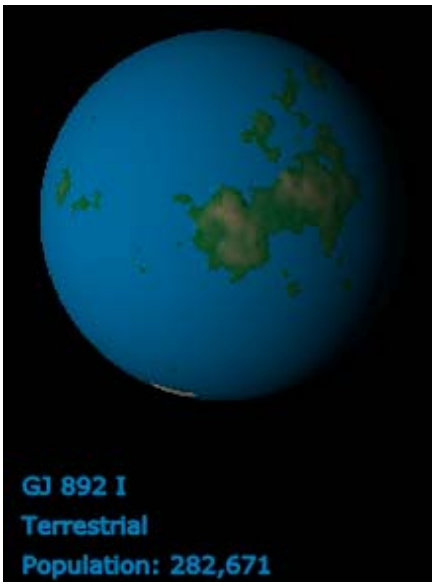


GJ 862 II
System Diagram





GJ 892 I



Orbit Number: 1
Temperature: Warm. A bit warmer than Earth, but comfortable
Gravity: Very slightly lighter than Earth.
Atmosphere: Very Earthlike
Native Life: Abundant and varied. Lots of commercially exploitable earthlike species.
Minerals: Excellent - large heavy metal deposits including Uranium.
Habitability: Superb.
Population: 283,000
Distance from Sol: 21.3 LY

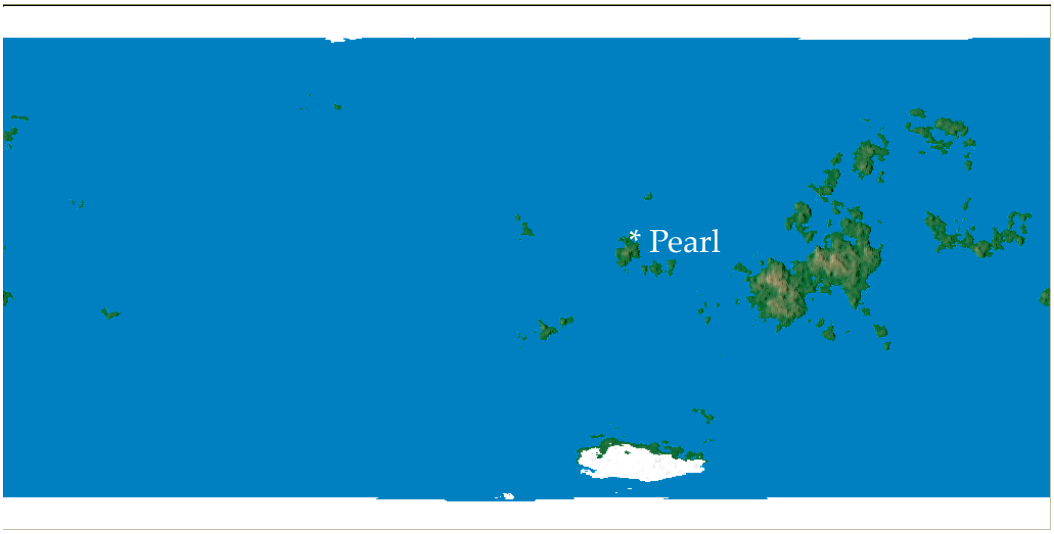
From the private log of Captain Asa Hawkins, June 11 2005

Pearl Spaceport shimmered in the heat as I walked down the gangway ladder. Comet was looking her age today. Sometimes she looks surprisingly young, but today she looked all of her 36 years. Pearl was very pretty - set on the ocean with white sand beaches and tall fringy looking tree things. They were mostly pinkish purple, but no big deal.

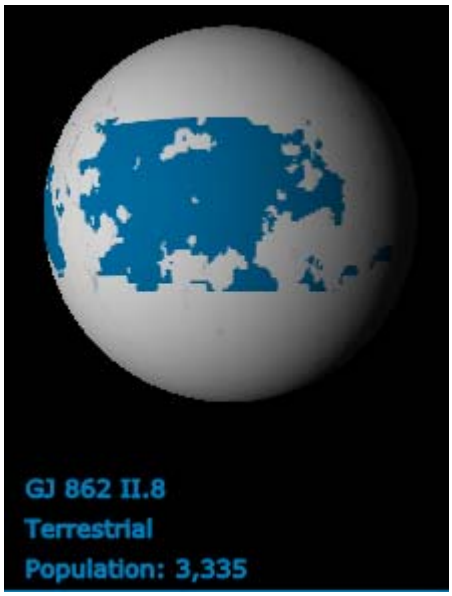
Pearl is too new to have a well developed underground economy, so we were going to play it straight here. This was our first time here, anyway, and we needed to make a good impression. There was some kind of tiny clouds drifting over the spaceport, but when I looked again I realized they were actually animals, drifting like balloons. I shook my head. You see all kinds of things out here in the Oikumene

The Port Master should be out here - there - at the edge of the pad, a blue Toyota was pulling up. The doors swung up and a man emerged - tall, bald, scarred on the left side of his face. I stopped dead in disbelief. “Hobart?” I croaked.

He smiled on one side. “You are mistaken, Captain.” he said in a familiar rasping voice. I’m Port Master Williams.” He hesitated, and in a penetrating whisper, added “Mr. James.”



GJ 892 II.8



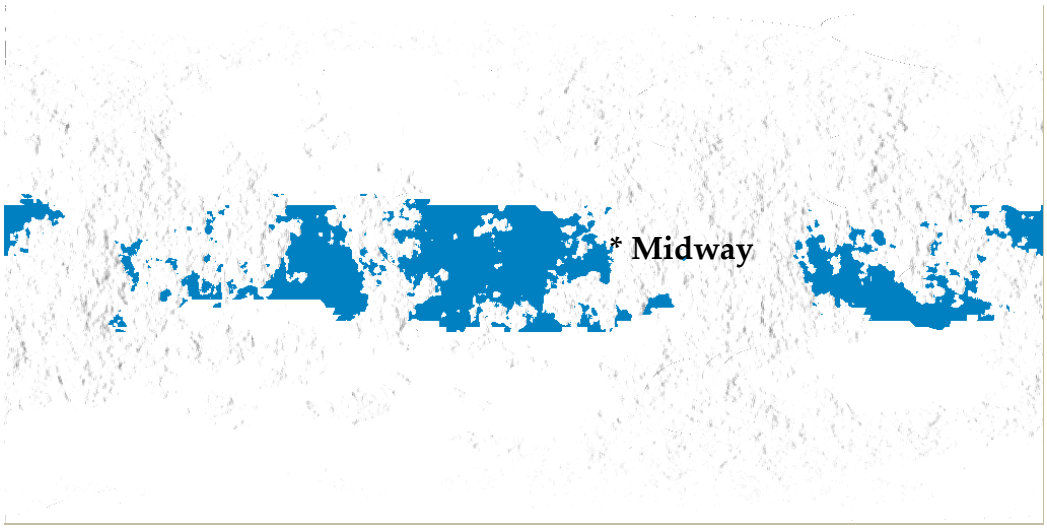
Orbit Number: 3
Temperature: Very cold - like New Alaska. Lots of glaciation.
Gravity: Much lighter than Earth. Lose 4 lbs/kgs in 10
Atmosphere: Very thin, and mostly CO2. Respirators with scrubbers needed.
Native Life: Some sea life - totally incompatible with earth life.
Minerals: Some small metal deposits, including commercial deposits of beryllium.
Habitability: Very poor
Population: 3,335
Distance from Sol: 21.3 LY

From an email by James Kerry to his brother Frank, October 11, 2003

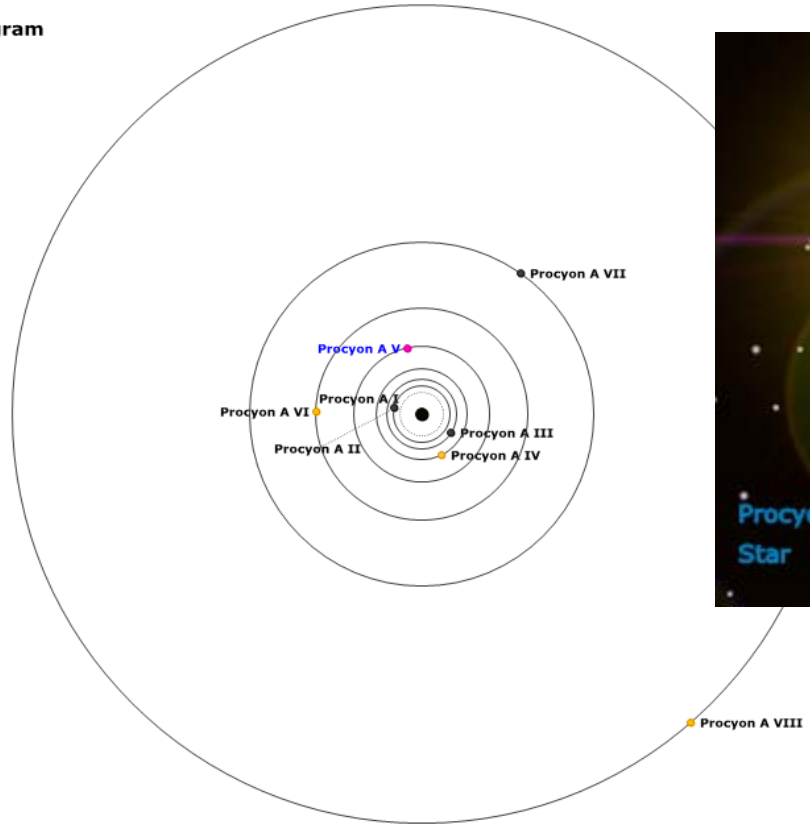
Christ is this place cold, Frank! No wonder the company gives us double pay plus bonuses. Yesterday, Bruno touched a stanchion at the spaceport without his glove and froze to it. He left a layer of skin shaped like a hand there. We are right smack on the equator!

Since you asked how things are here, I'll give you a quick overview. The Borehole goes through the foothills between us and Big Rock Candy Mountain. The company has rigged bulkheads to seal off the Borehole, and pumped in Earth air. It's a hellova lot safer for us miners. We take the train through the Borehole until we are in the mine proper, under the Mountain.

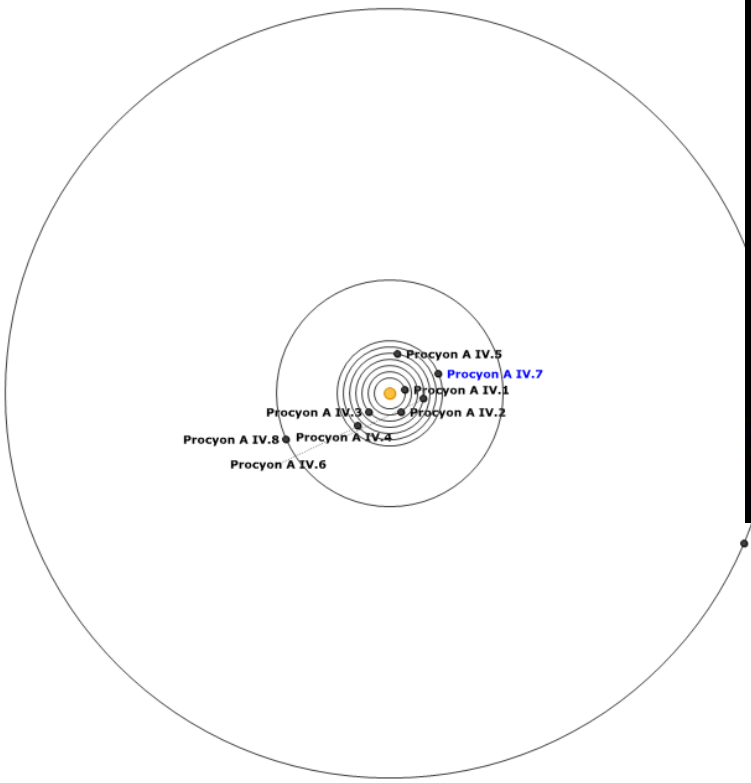
We get off the train at the mine head, and head down to whichever vein we are working on. The cutter jet operator blasts the rockface with high pressure water, which slices through the rock like cheese. My job is to test samples of ore with this electronic x-ray gun, to make sure we stay on the vein. If the proportion of beryllium gets too low, I stop the cutters and find the vein again with the x-ray gun. The broken up ore gets carted back to the Borehole and sent to the refinery. That's it in a nutshell, Frank. My love to Betsy and little Carl!

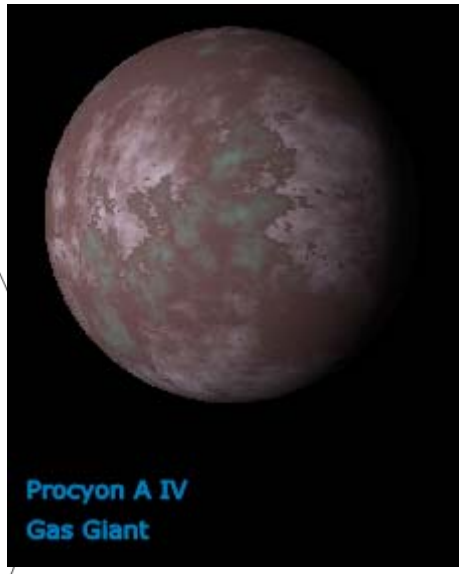


Procyon A
Star System Diagram

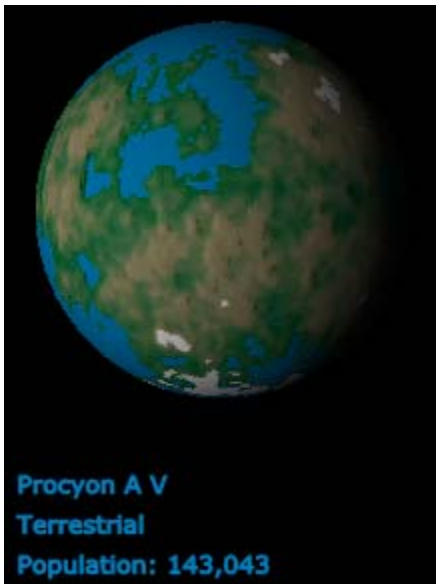


Procyon A IV
System Diagram





Procyon A V



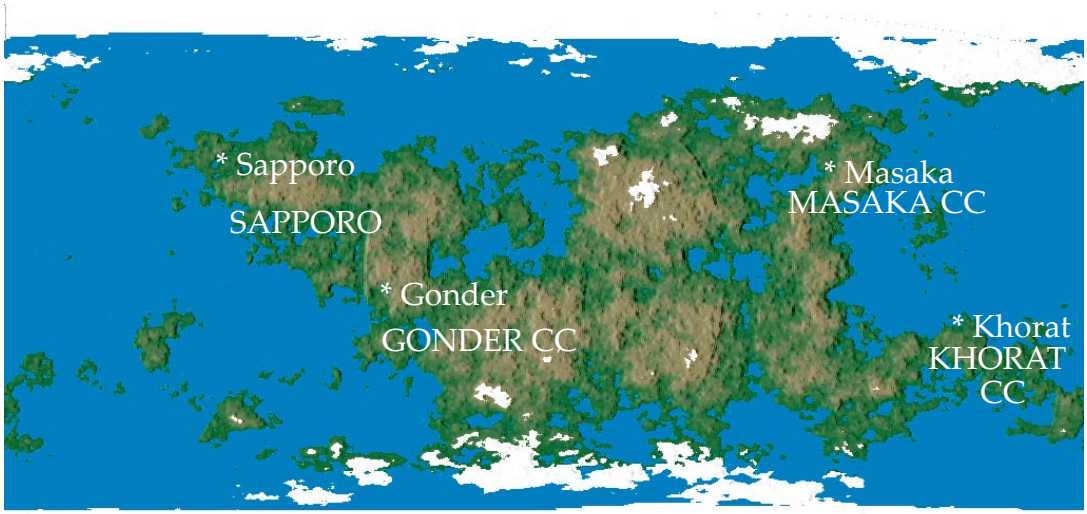
Orbit Number: 2
Temperature: Somewhat warmer than Earth.
Gravity: Somewhat heavier than Earth - gain 14 lbs/kgs in 100
Atmosphere: Somewhat dense, with a high partial pressure of oxygen.
Native Life: Abundant species of land fauna and flora, some exploitable.
Minerals: Fair to good distribution of common metals.
Habitability: Very good.
Population: 143,000
Distance from Sol: 11.4 LY

From the journal of Yoshida Akemi, February 1, 2005 (Translated)

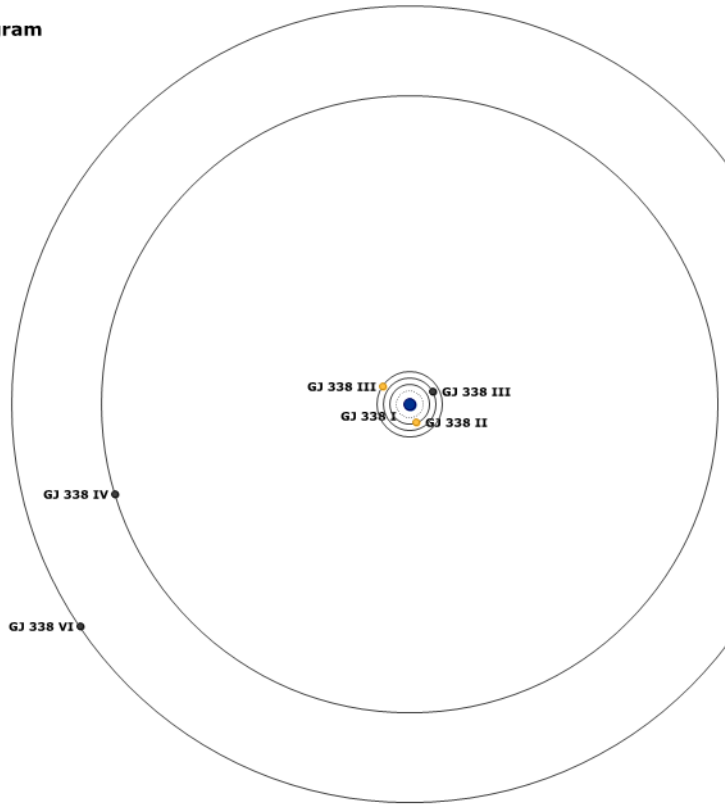
This is our third anniversary here in Sapporo. Looking back on the time since we came here from the refugee camp on Lunar Japan, I see how frightened I was, and marvel. It seems so long ago - I was only thirteen, a giggling awkward knobkneed girl on vacation with my Aunt in Australia - that it all happened. I could not write about it at the time - Mother, Father, my whole country dead. I think I went a little crazy then. Horror does that. I don't even remember how we got to Luna, and Auntie won't talk about it.

I do remember the cargo ship - stuffed in the hold with hundreds of other refugee Japanese, with those bunks towering so high - floating asleep in my cocoon - playing tag with the other children, bouncing off the walls and ceiling - those horrid MREs they fed us. I don't think I will ever forget that.

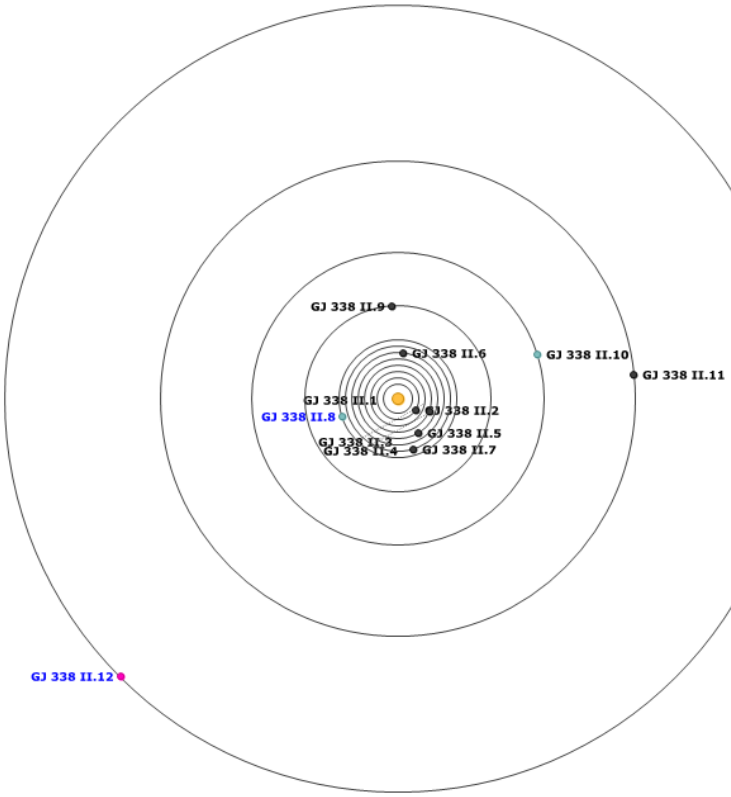
Now our farm is so snug! The sun is very hot and white, and we have to cover our skin or get cancers, but we have so much now! I was a city girl on Earth, and now I'm a country girl. I have learned to love the country, our land, our farm! I still miss mother and father though!

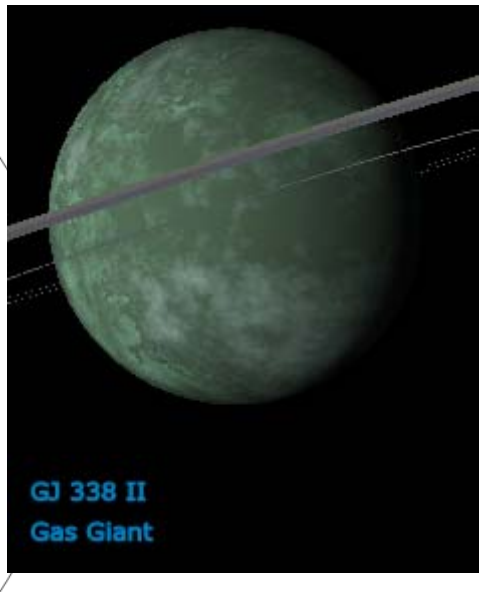


GJ 338 A
Star System Diagram



GJ 338 II
System Diagram





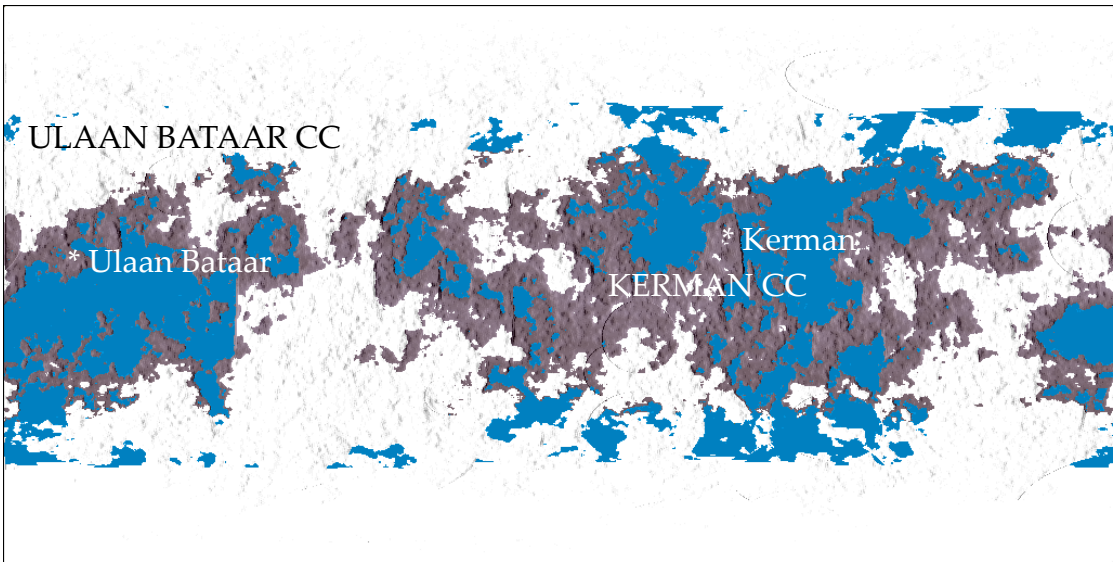
GJ 338 A II.8

Orbit Number: 2
Temperature: Cold and glaciated - temperate in the tropics.
Gravity: Less than half Earth gravity.
Atmosphere: Thin, with the bite of sulphur. Respirators and scrubbers needed at altitude.
Native Life: Primitive land plants. No fauna.
Minerals: Abundant heavy metals, commercial mining for many metals.
Habitability: Fair
Population: 143,000
Distance from Sol: 20.2 LY

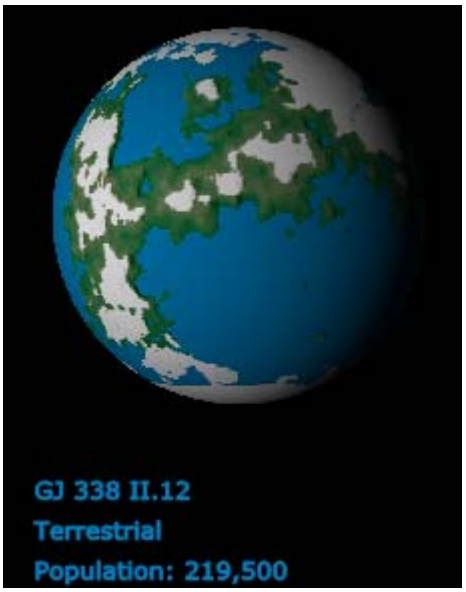
From an email by Chuluuny Bat to his fiancee Sukhuny Dzoldzaya, March 14, 2001 (Translated)

Sweet Dzaya, I do not know if this will reach you before you leave home for this world, but I had to send this to tell you how much I am thinking of you. This new land is much like home, except the smell of rotten eggs in the air. You will get used to that - I no longer even smell it. The Iranians in Kerman wear respirators all the time, but we only need them in the hills and mountains. This is a fresh clean land - the horses are happy eating the native plants, and they gambol like goats in the light gravity. When you ride, it seems their hooves barely touch the ground. That is how I feel when you are near me. I miss you like the head misses the heart. My life is empty until I see you again.

Remember to pay your respects to my grandfather - he is aged and not healthy, and I wish you to let him know I think of him. Tell my mother she can be proud of her son. We have built up a strong and healthy herd here. I go to the city once a year to sell my extra foals, our extra foals, but keep the best for breeding. Little Solongo has foaled twice - can you believe it? Both of them black like her. I can't wait until I can see you again! You will be proud of your new husband!



GJ 338 A II.12



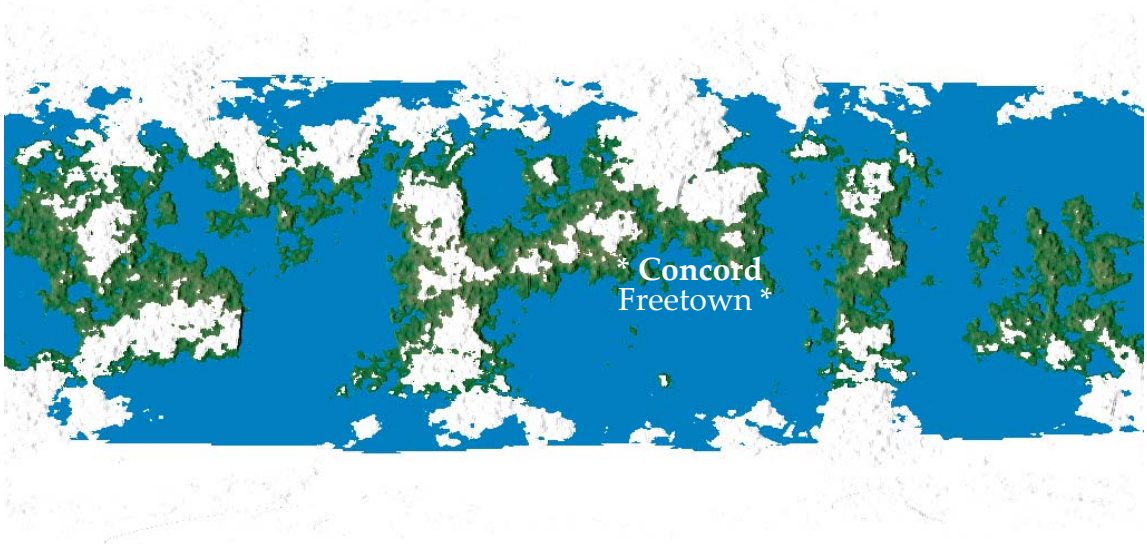
Orbit Number: 2
Temperature: Cold with glaciation - temperate in the tropics.
Gravity: Less than half of Earth's
Atmosphere: High concentration of CO2. Scrubbers needed.
Native Life: Lavish fauna and flora. Particularly valuable flora includes jimjim trees and bullshoots.
Minerals: Excellent commercial mining sites.
Habitability: Good.
Population: 219,500
Distance from Sol: 20.2 LY

From an email by Jake Richer to his sister Anna, August 12, 2004

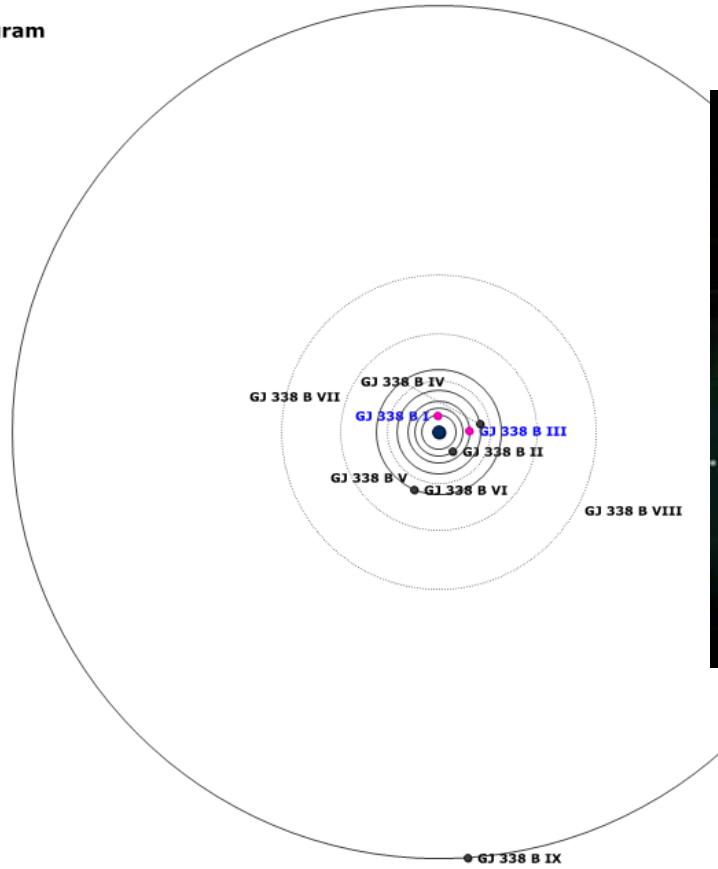
I have moved since I last emailed you. I have left Concord for the new settlement in Freetown. It's a much smaller town - still prefab buildings and dirt streets - but I feel more comfortable here. The people are friendly, and don't mind that I am blind, unlike Concord. I am the only lawyer in town, and have been very busy, drawing up wills, researching deeds, framing contracts, all the fun stuff. The Circuit Judge comes out from Concord twice a year, along with the DA, and we try any cases that have come up. So far nothing exciting.

My apartment is small, but nice. Buddy has learned to never let me out without my scrubbers - or his. We had that one close call when we first came here, but since then his track record is perfect. I think I got the smartest guide dog there ever was, thanks to you! I couldn't possibly cope with a new planet without him.

Give my love to Mom! I'm so happy to hear you have made yourselves at home on Roosevelt. Is she still grieving over dad? It was his decision to go to New York. Love to you!

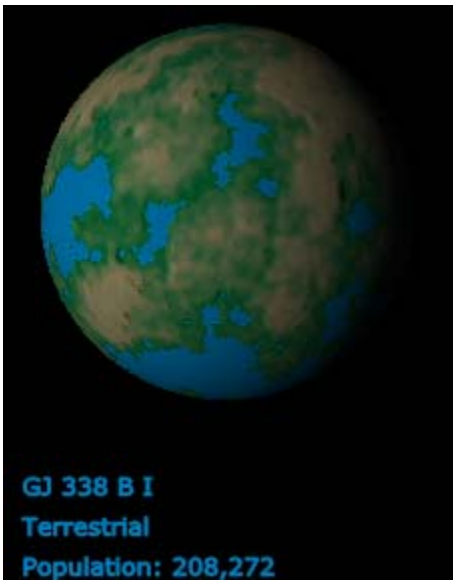


GJ 338 B
Star System Diagram



GJ 338 B has no gas giant for braking, and is a quarter light year from GL 338 A, so the system is only accessible to long distance haulers. Shorter range haulers and Gas Giant Shuttles will find it impossible to brake into the system.

GJ 338 B I



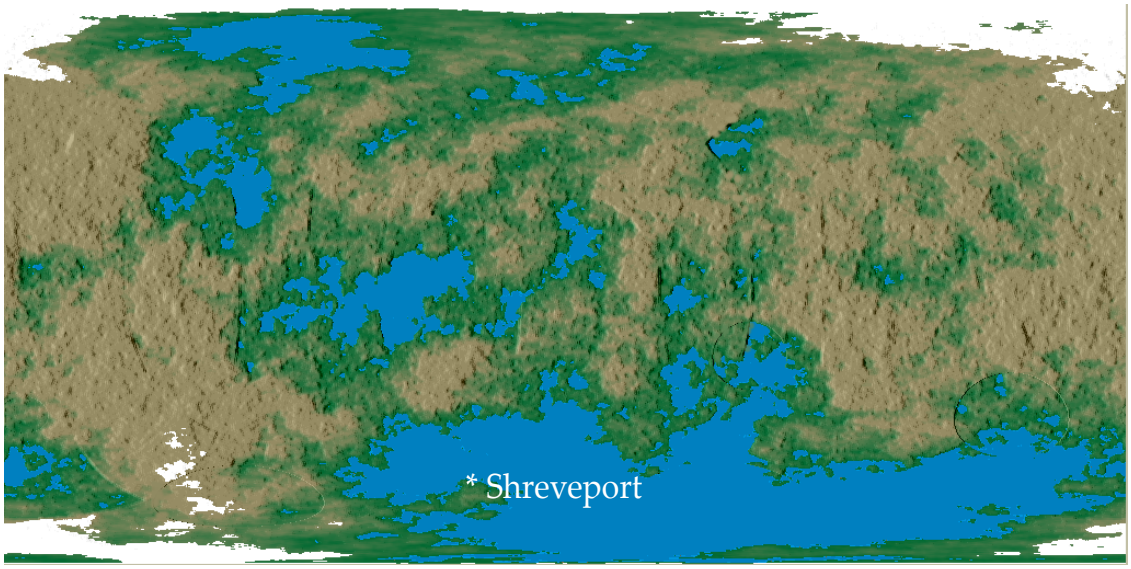
Orbit Number: 1
Temperature: Hot - tropical in the polar areas.
Gravity: Almost exactly Earth normal.
Atmosphere: Somewhat thick, but breathable.
Native Life: Varied and abundant.
Minerals: Rich and commercial grade.
Habitability: Excellent
Population: 208,000
Distance from Sol: 20.5 LY

From the journal of Governor Kenneth Farmer, April 18, 2002

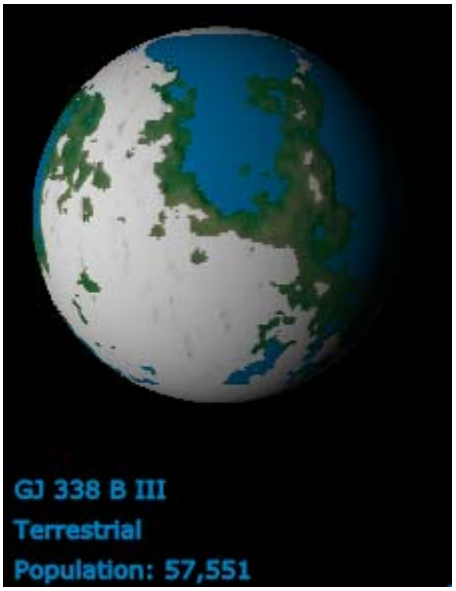
The first shipment of refugees from Earth came in this morning. They were all dressed alike, in white jumpsuits, looking dazed and shattered. All of them had their head shaved before they left. This bunch had spent two and a half months packed into the hold of a converted cargo freighter. There were individuals, families, and couples who had met on the flight. Some of them had small mementos of earth, while others had nothing. They had the most amazing stories of survival to tell!

Only one couple had relatives in town, but many of them were taken in by local families We are moving the rest of them out to farmland in the west of the peninsula, where we are raising wheat and corn. 20 of them will be bunked at the Agricultural Research station, where some of the native grasses are being tested for possible domestication.

I don't know how well they are going to integrate into the community. The rest of us are all volunteers, trained for this. I suppose we'll get more than our share of them in the future.



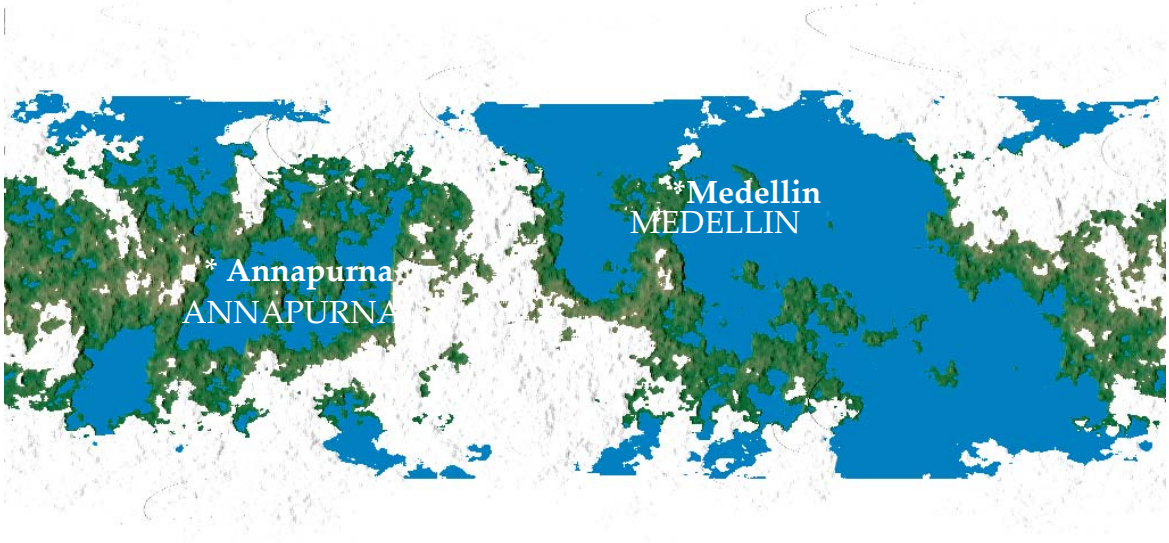
GJ 338 B III



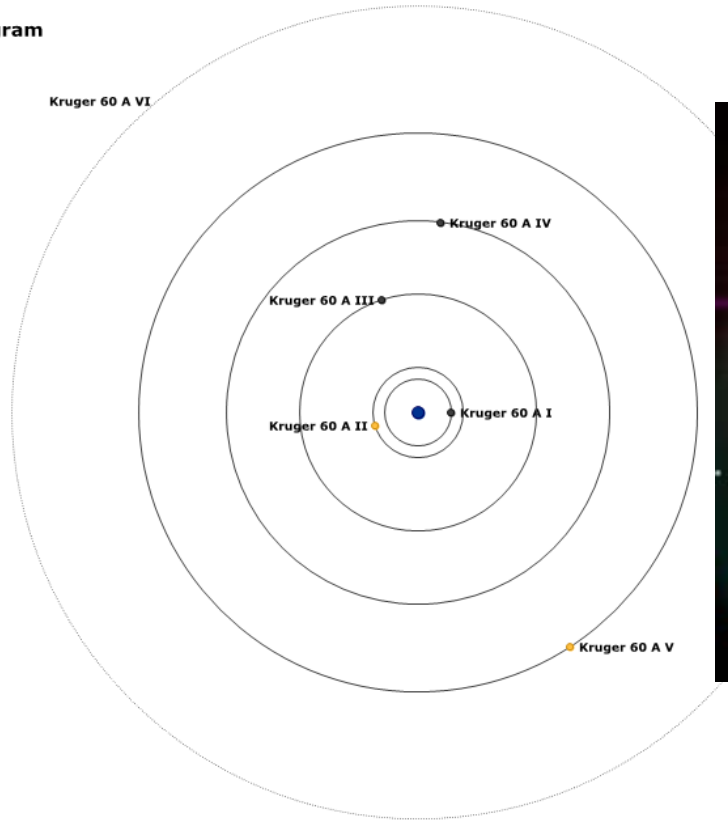
Orbit Number: 1
Temperature: Cool but healthy. Nice in the tropics.
Gravity: 3/4 that of Earth. Lose 25 lbs/kgs per 100.
Atmosphere: Thin but breathable.
Native Life: Abundant, but not varied. Few species of Fauna.
Minerals: Good concentrations of commerial grade ore.
Habitability: Very good.
Population: 57,500
Distance from Sol: 20.5 LY

From the blog of Carlo Hernandez Lopez, December 11, 2001

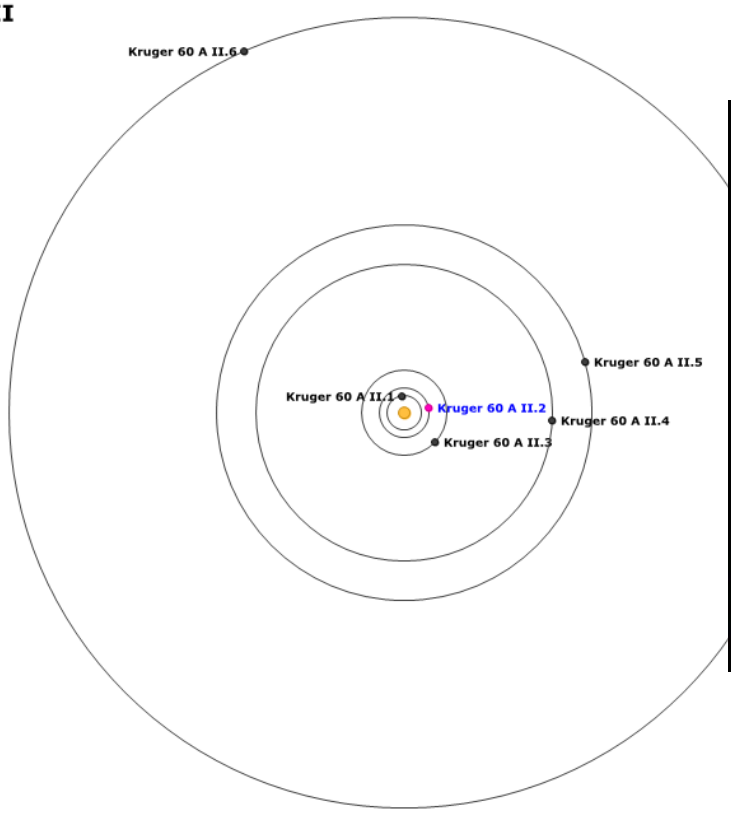
I just heard about the comet hitting EARTH on the radio a few minutes ago. OMG! This is horrific! They say it was a terrorist attack - a mars terraforming comet that got hijacked! WTF WERE THESE IDIOTS THINKING! That's EARTH! Our mother planet! This hits all of us - The casualty figures they give are just guesses, of course, but I am stunned at the magnitude of this EVIL! What I have heard is they were colonial separatists. I AM A COLONIAL SEPARATIST! Everyone who reads this blog knows that! Now these EVIL men have made ME a terrorist by extension, no matter if I only wanted separation by mutual consent - NONVIOLENT - Discussion and reasoned discourse. I HAVE GIVEN MONEY TO SEPARATIST ORGANIZATIONS! That means I may have - unwittingly - taken part in this act of unimaginable hatred! I AM SORRY! I can't believe this! This devastates me, I FEEL DIRTY AND GUILTY AND DEFILED! OMG What were they THINKING! I can't sleep or eat or even think anymore! I think I will turn myself in. IF THEY HANG ME MAYBE I DESERVE IT!



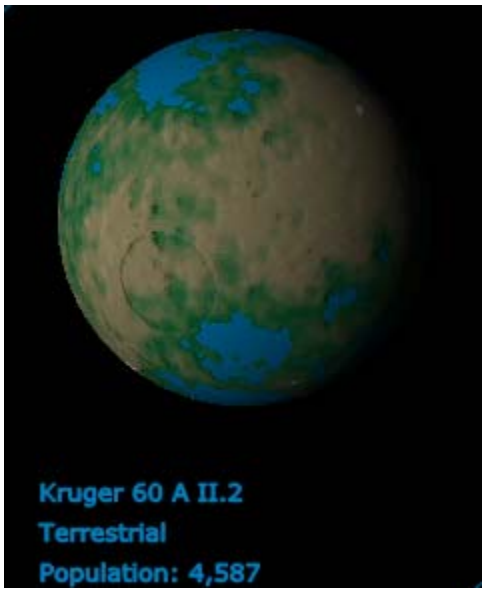
Kruger 60 A
Star System Diagram



Kruger 60 A II
System Diagram



Kruger 60 A II.2



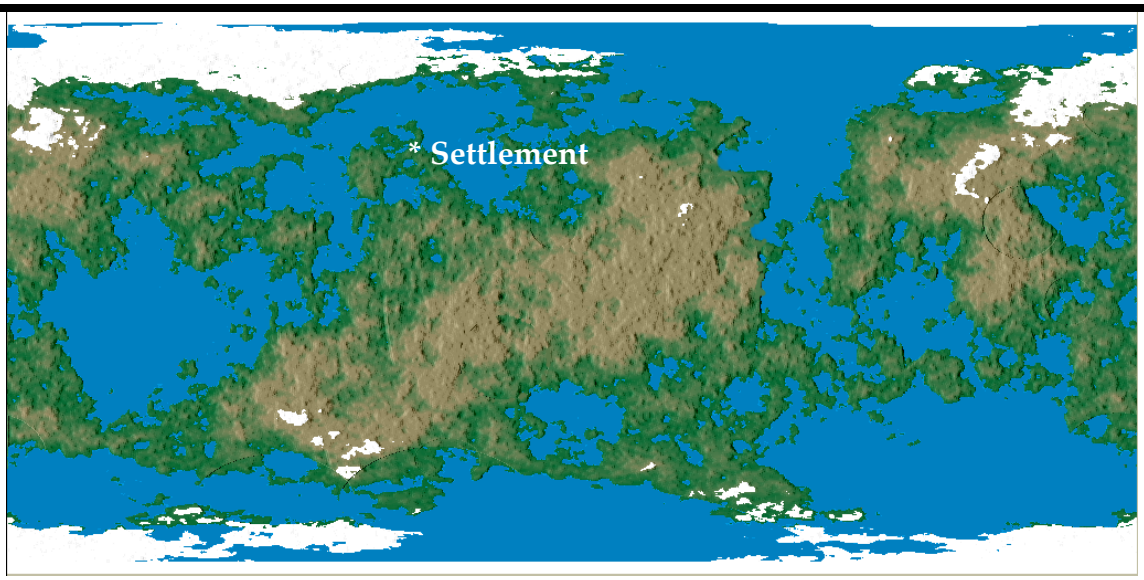
Orbit Number: 1
Temperature: Warm to hot. Settlement is in temperate sub-polar regions.
Gravity: A third that of Earth. Lose 66 lbs/kgs per 100.
Atmosphere: Very thin but breathable due to high concentration of oxygen.
Native Life: Plentiful flora - fauna limited to insectoids
Minerals: Very poor.
Habitability: Good.
Population: 4,587
Distance from Sol: 13.1 LY

From the private log of Captain Asa Hawkins, April 30, 2006

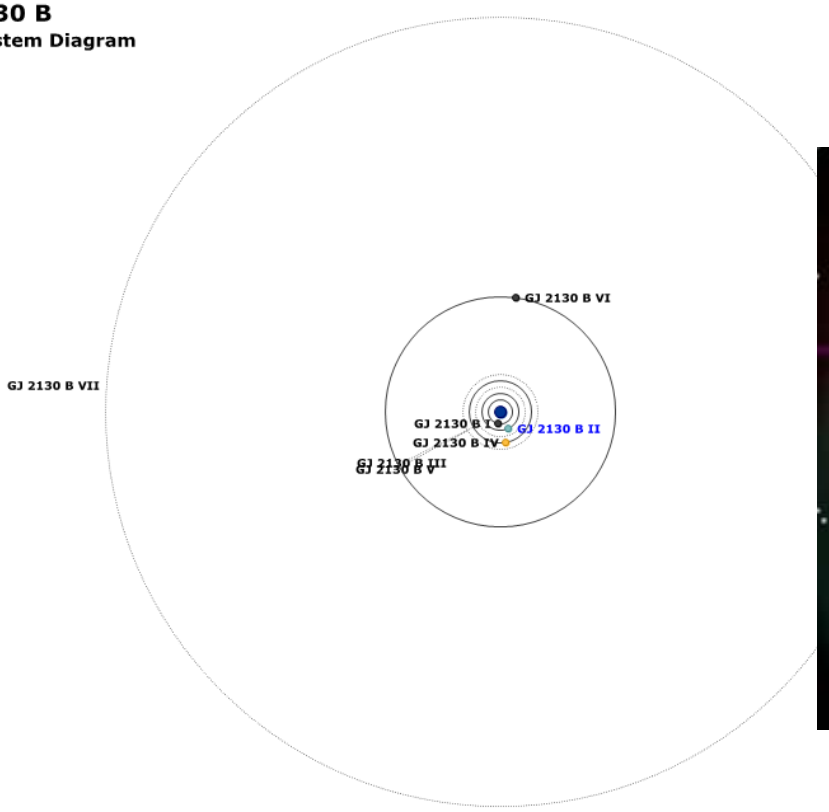
The Kruger microcolony is always an interesting stop. We brought out a cargo of farm machinery from Novya Minsk, which was really needed here, and the citizens all met us at the landing field. Notice I said field. As in dirt, grass, flowers, and rocks field. The colony has no spaceport. The crew hoisted the tractors and what all - I'm not a farmboy - out onto the field, and I went to talk to the mayor. Seems the colony's account was pretty much dried up, and we'd have to either haul the tractors back to Barnard's or barter something, and they really needed those tractors.

We went back and forth for a while - Any metals? Nope. Scarce as hen's teeth. Food? Nope, Colony had barely enough to get through the winter - did I mention they really needed those tractors? OK - any curios? What's that? Y'know, weird stuff. Funny animals, weird rocks, interesting plants... Ah! There's some strange fat-lobed plants in the outback. OK - better than nothing!

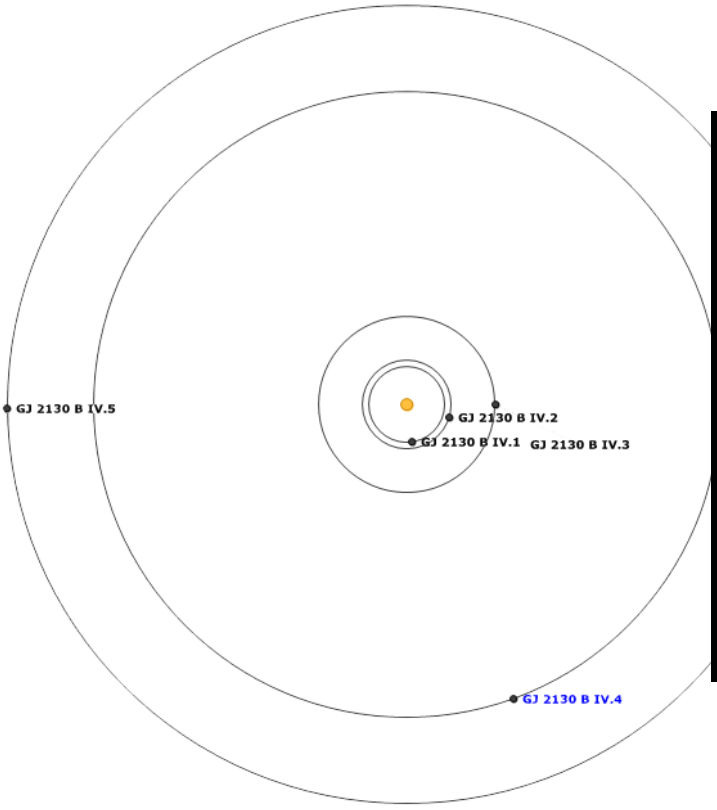
And that's how the Comet cured cancer. Well - I can dream, can't I?

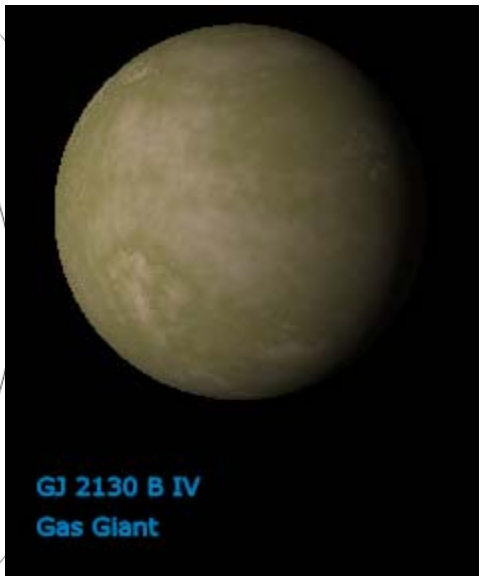


GJ 2130 B
Star System Diagram



GJ 2130 B IV
System Diagram





GJ 2130 B II

Orbit Number: 1
Temperature: Quite hot. The equatorial regions are brutal. Settlement is on shores of antarctic ocean.
Gravity: Almost exactly that of earth.
Atmosphere: Thick, but mostly helium. Respirators needed, and voices are very squeaky.
Native Life: Limited land plants, mostly very primitive. No animal life at all.
Minerals: Very poor. Some aluminum and other light metals.
Habitability: Good.
Population: 1054
Distance from Sol: 20.2 LY

From the journal of Marc Gamble - dated July 1, 2005 - found February 16, 2006

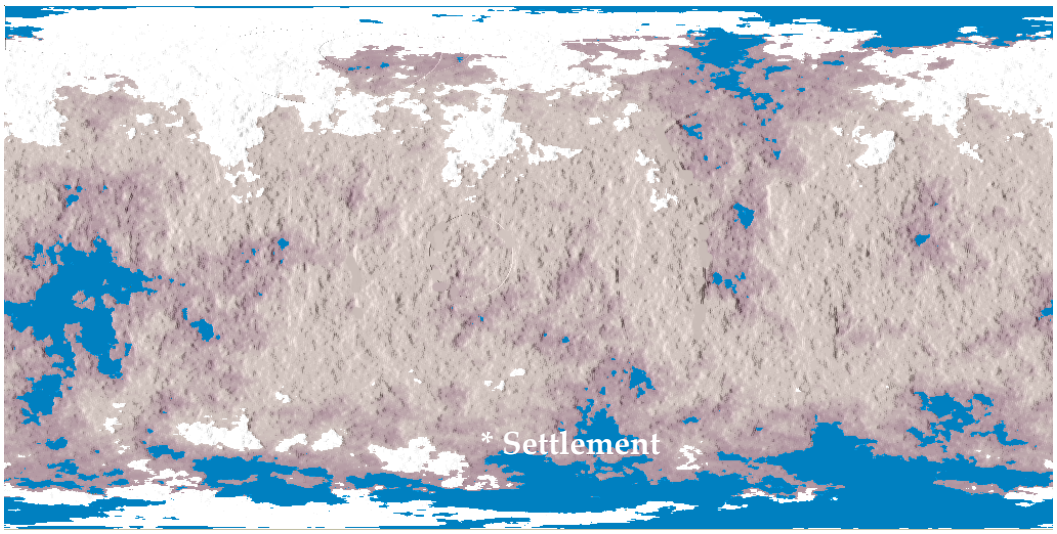
I have sinned, and I will go to hell. I drank my last bottle of water an hour ago, and I can feel myself dehydrating. The good news is I have plenty of power in my respirator and won't choke to death. I'll dry out like a mummy instead.

I am guilty - guilty! I did it. She drove me crazy! So beautiful! They were right to exile me. There is no death penalty in the Church, but they can exile me. I did it and I am going to hell. All I could think of was her, and I couldn't sleep. I just tossed and turned, consumed with lust. So I did it, and I'm not sorry! Oh god, I'm sorry!

I blacked out for a while. My lips are black and cracked. It must've been for some hours ... Seeing things ... saw her smiling at me, inviting me ... I couldn't stop it. I... may God forgive me. The Elder looked at me with pity...

Lord forgive me! Pity me Lord! Forgive me my sins! They weigh on me like burial dirt... I did it to her. I couldn't control myself... I was too ashamed to call on you. Forgive me - I touched her hand. I did it, and meant to....

Forgive me Lord!



Tuesday, September 11th, 2001

Robert watched as if in a dream. Earth was still only a great blue crescent on the vidscreen, the sun a long ways off to the right, Luna hidden on the far side of the world -- but Robert knew they'd have to make at least one full orbit in order to brake for docking.

He'd never expected to see it again. Any of it. Now he felt a strange longing to go down there, to breathe unfiltered air and feel the ocean wind on his face.

He shrugged deeper into his ill-fitting new jacket and wondered if he'd make it that far. No one had laid a hand on him throughout the trip, but he knew better than to allow himself a shred of confidence or hope. He kept himself locked in his cabin as much as he could. It took an effort of will to go out the door at all. The only reason he came to the common area was to see Earth, so close-by. He could almost reach out and touch it.

A ripping noise surprised him from behind, the sound of footsteps on the velcro flooring. The man in grey robes stopped next to Robert at the porthole, and Robert instinctively put an extra step of distance between them. Nowadays he cringed from any physical contact, an animal impulse that he couldn't seem to control.

"It is beautiful, is it not?" the man asked.

"It is," Robert said. He knew better than to say no.

"You're a native of New York, are you not, Mr. Mercer?" the man continued. The sheer ominousness of that sentence made Robert's skin crawl. "I have visited it myself. Smelly, dirty place."

Warily, Robert looked at the man. "We manage to live with it."

"As you like. Speak, or not." He shrugged. "We will be docking at Orbiter One in three hours, where you are to be left to your own devices. None of our men will continue hunting you, though I cannot of course speak for every organisation that shares our Afghani roots . . ."

"Since when do you care about my personal safety?"

"I don't. I only wanted you to appreciate the full significance. It's a very special day, you see." He stroked his beard, eminently pleased with himself. "You and I won't meet again, so good luck in your new life."

Robert shivered. Never in his life had he felt so alone. His breath was choked out of him by a sense of impending doom, not knowing, not daring to ask.

He didn't have to. The ship slid smoothly into orbit, and for the first time he noticed the blue jet of ice that seemed to blow out of the Earth like a geyser of unprecedented proportions. Or perhaps into the Earth.

"What have you done?" he breathed as his eyes followed the trail to its source. A bright white fireball hurtling down towards the East coast. It was far too close for anything to stop it now.

"That's a strange criticism coming from you, Mr. Mercer. Do you know how many good men you have murdered? How many families?"

Minutes passed, and Robert stood transfixed. The fireball turned fuzzy and grew smaller when it hit the atmosphere, became a bright spear stabbing downward. A flash as it hit, blinding white. The mushroom cloud, bigger than anything Robert could have imagined, over the crater where New York city had been.

"For Allah?" he choked, the only thing he could force out of his throat.

"Do not judge all of Islam by our example, Mr. Mercer," the man said in his matter-of-fact voice, as if it was simply Tuesday. "Many of my people are soft and complacent, like yours. I myself am a terrible man. I realise this. But sometimes the world needs terrible men to defend the faith, to bring corruption to light, to sweep clean and make other men see. We are cleansers and harsh teachers. You have this expression in your language, 'tough love,' have you not?" He laughed at his own joke.

That was when Robert lunged. Raw, primal hate boiled in his blood, either a final reconnection with his humanity or the abandonment of it. It didn't matter anymore. As they tumbled to the floor, his searching hands found the ceremonial dagger at the man's belt, jerked it free from its sheath. Silently he wrapped his fingers around the hilt and drove the blade up into the man's chin. Warm blood spilled onto his hands. The man grunted, twitched once, and fell silent.

In his mind, Robert was already free when the first bullet hit him.

Appendix A

Optional Rules

Use of these optional rules is solely at the discretion of the GM and may be dropped at any time if the GM feels the rule is detrimental to the game.

Optional Rule: Sniping and Single Shot Kills

If the character wishes to snipe, and the situation and weapon is proper, sniping is possible. If the weapon has a range factor of Far or Long and is in the proper range for the weapon and the target is unaware of the presence or general position of the sniper, the sniping rules are in effect. In this case a hit is either a death blow or a wound. If the adjusted number rolled to hit is 5 or less from the maximum, but still a hit, then the target takes the normal damage from the hit X2 (double damage.) If the adjusted number rolled to hit is 10 to 6 from the maximum, but still a hit, then the target takes the normal damage from the hit X3 (triple damage). Any other hit results in the target sustaining a lethal wound.

For example: a sniper with firearm+5 and coordination of 9 has a 70% chance of a hit to skin. The target is at long range and unaware of the sniper, and the firearm is an autorifle. A result of 70 or less on %d is required for a hit.

If the number rolled is 66-70, the target sustains double damage from the hit. If the number rolled is 61-65, the target sustains triple damage from the hit. Anything above 70 is a miss, and anything 60 or below causes instant death to the target.

Sniping brings sudden death into the combat picture. Normally, FTL Now Combat is bloody, but seldom lethal. Some GMs are loath to use sudden death on their own players. We have left the decision here up to the individual GM. If the Player characters are able to snipe, but the opponents are not able to snipe at the PCs, the GM will have to deal with what amounts to indestructible PCs. This is not necessarily a bad thing, but can drastically alter the flavor of any campaign.

Here are some possible options:

Player characters and opponents can snipe: This tends to lead to a very grim, extremely gritty feel. Players may feel very vulnerable and may refrain from sticking their characters' necks out. This is the most realistic option, in that the player characters will behave more like real people in a stressful situation.

Player characters only can snipe: This leads to a more open game. The player characters are able to snipe with impunity, but the GM can control the *conditions* for sniping. In other words, the player characters can snipe, but only when the GM says they can. This can satisfy the player need for tactical involvement but allows the GM to control things on a higher level.

Optional Rule: Commando-type Actions

Characters may attempt commando-type actions such as picking off a sentry by clasping a hand over the sentry's mouth while slicing his neck with a knife. If the character has an appropriate background, such as infiltrator, this should be purely a question of the character's ability to sneak up on (using the sneak skill) or rush the sentry (using the dash skill), and nothing to do with weapon skill. If the sentry does not detect the approach of the character (sneak) or is unable to respond in time (dash) the sentry should die. If a character without an appropriate background attempts it, roll at sneak+0 or dash+0 as appropriate, with modifiers for agility. In any case, the sentry's constitution should be ignored.

Optional Rule: FTL Now Simple Vehicle Combat Rules.

These rules may replace the standard rules if less realism and quicker results are wanted. This system also scales well for use in situations of vehicles vs. people. Sides make standard initiative rolls. Side goes on its initiative. Player controlling character using the weapon rolls to-hit, with standard modifiers.

Weapon factor (WF) of the weapon used must be equal to or higher than armor points (AP) to penetrate. If not, it will just bounce off.

Examples:

Heavy Machine Gun (WF 2) vs. Iron Armor factor 1 (2 AP) = penetration

Heavy Machine Gun (WF 2) vs. Iron Armor factor 2 (4 AP) = no penetration

Medium Cannon (WF 20) vs. Iron Armor factor 8 (16 AP) = penetration

If weapon penetrates, roll damage. Damage is 1d10*Weapon Factor*10. If the weapon is a burst fire weapon - such as machine guns, miniguns, gatling guns, or autocannon, damage is again multiplied by 5.

Examples:

Heavy Machine Gun damage = 2*10*5*1d10 = 100-1000

Medium Cannon damage = 20*10*1d10 = 200-2000

Vehicles have 100 constitution points per ton, rounded up.

Examples:

302 ton Cargo Aircraft 30,200 constitution

25 ton Armored Vehicle 2500 constitution

172 ton Boat 17,200 constitution

At its full constitution*.75, the vehicle is Hindered. All rolls are at -20% and max speed is *.75

At its full constitution*.50, the vehicle is Damaged. All rolls are at -40% and max speed is *.50

At its full constitution*.25, the vehicle is Hammered. All rolls are at -60% and max speed is *.25

Optional Rule: Integrated Combat System

The Integrated Combat System is offered as an option for those who wish a more seamless, realistic system, as opposed to the rather stylized FTL Now standard combat system.

As in the standard combat system, the chance to hit is 45% at level 1, plus 5% per each level of skill higher than +1. The Integrated Combat System is different in that all conditions are treated as straight modifiers to that basic die roll. Weapons are given a skill rating in the equipment list. The penalty for using a weapon with a skill rating higher than the character possesses is a - 5% penalty per skill level short of the skill rating.

Example:

Eugenia has blade+1 and wishes to use an arc sword, which is rated at blade+3. She is thus 2 short of the skill rating, and gets a -10 to hit with her arc sword.

A person without sufficient skill is a danger to herself as well as the enemy. Any miss which misses the target number by more than 60 will injure the wielder.

Example:

Joseph has no skill with blades but picks up an arc sword dropped on the floor during a combat. His strength is 11, so he has an 11% chance to hit with the sword. If he rolls over 81, however, the arc sword has turned in his hand and he will wound himself.

One need not be of any particular skill level to perform two or three actions in a given round. If a character wishes to perform 2 actions in a round, they may do so provided they take a penalty on each action of -5% per level of skill below +8.

Example:

Penelope wishes to strike twice in the same round with her arc sword, and has the skill blade+3. Her normal to hit would be 55%, but she is 5 skill levels short of +8, so must pay a penalty of -25%, giving her a 30% chance to hit on each of 2 attacks.

If a character wishes to perform 3 actions in a round, they may do so provided they take a penalty on each action of -5% per level of skill below +12, Example: Penelope wishes to strike thrice in the same round with her arc sword, and has the skill blade+3. Her normal to hit would be 55%, but she is 9 skill levels short of +12, so must pay a penalty of -45%, giving her a 10% chance to hit on each of 3 attacks.

- Use of a weapon rated at a higher skill is at -5% per skill level short.
- Penalty for two actions in one round -- 5% for each skill level short of 8.
- Penalty for three actions in one round -- 5% for each skill level short of 12.
- Any miss by over 60% counts as self-injury.

Example:

A person with blade+1 uses a katana(+5):

Chance to hit = 45%-20%=25%

Average damage with a katana hit = 100

Average damage per round = 25%*100 = 25

Chance of self-injury = 15%

A person with a blade+1 uses a shortsword(+1)

Chance to hit = 45%

Average damage with a shortsword hit = 65

Average damage per round = 45%*57.5 = 29.25

Chance of self-injury = 0%.

The low-skilled person will have no motivation to use too difficult a weapon, but they are not penalized excessively if they find that a difficult weapon is all that is available.

Another example:

A person with a blade+3 uses a shortsword(+1)

Average chance to hit = 60%

Average damage with a shortsword hit = 65

Average damage per round = 60%*65= 39

Chance of self-injury = 0%

A person with a blade+3 uses a katana

Average chance to hit = 60%-10% = 50%

Average damage per katana hit = 100

Average damage per round =50%*100 = 50

Chance of self-injury = 0%

A person of intermediate skill gains little by using a high skill weapon, but they aren't penalized.

Example:

A person with blade+5 uses an arc sword(+3)

Average chance to hit = 70%

Average damage per arc sword hit = 80

Average damage per round = 70%*80 = 56

Chance of self injury = 0%

A person with blade+5 uses a katana(+5)

Average chance to hit = 70%

Average damage per katana hit = 100

Average damage per round = 70

Chance of self injury = 0%

It takes a skilled fighter to get much benefit from using the katana. Multiple attacks per round become a choice that is more reasonable with advanced skill, not an ability that is suddenly achieved at a particular skill level.

Example:

A person with blade +2 makes one attack per round using a katana(+5)

Average chance to hit = 55% - 15% = 40%

Average damage per katana hit = 100

Average damage per round = 40

Chance of self-injury = 0%

A person with blade +2 makes two attacks per round using a katana(+5)

Average chance to hit = 55% - 15% - 30% = 10%

Average damage per katana hit = 100

Average damage per round = 2*(10%*100) = 20

Chance of self-injury = 30% per strike = 51% per round

The low-skilled individual does less damage and great risk of self-injury when choosing to make two attacks per round.

Example:

A person with blade+3 makes one attack per round using a katana(+5)

Average chance to hit = 60% -10% = 50%

Average damage per katana hit = 100

Average damage per round = 50

Chance of self-injury = 0%

A person with a blade+3 makes two attacks per round using a katana(+5)

Average chance to hit = 60% - 10% - 25% = 25%

Average damage per katana hit = 100

Average damage per round = 2*(25%*100) = 50

Chance of self-injury = 15% per strike = 27.75% per round

At skill level +3, there is no overall advantage or disadvantage in terms of damage to the enemy in using multiple strike per round, and a significant risk of self-injury.

Example:

A person with a blade+4 makes one attack per round using a katana(+5)

Average chance to hit = 65% - 5% = 60%

Average damage per katana hit = 100

Average damage per round = 60%*100 = 60

Chance of self-injury = 0%

A person with blade +4 makes two attacks per round using a katana(+5)

Average chance to hit = 65% - 5% - 20% = 40%

Average damage per katana hit = 100

Average damage per round = 2*(40%*100) = 80

Chance of self -injury = 0%

At this level of proficiency, making multiple attacks per round makes sense, increasing one's effectiveness by 33%.

Example:

A person with blade+5 makes one attack per round using a katana(+5)

Average chance to hit = 70%

Average damage per katana hit = 100

Average damage per round = 70%*100 = 70

Chance of self-injury = 0%

A person with a blade +5 makes two attacks per round using a katana(+5)

Average chance to hit = 70% - 15% = 55%

Average damage per katana hit = 100

Average damage per round = 2*(55%*100) = 110

Chance of self-injury - 0%

Now multiple attacks give a 58% advantage over a single attack per round.

Example:

A person with blade +6 makes one attack per round using a katana(+5)

Average chance to hit = 75%

Average damage per katana hit = 100

Average damage per round = 75

Chance of self-injury = 0%

A person with blade +6 makes two attacks per round using a katana(+5)

Average chance to hit = 75% - 10% = 65%

Average damage per katana hit = 100

Average damage per round = 2*(65%*100) = 130

Chance of self-injury = 0%

Now the multiple attacks have a 73% advantage over a single attack.

This method is more realistic than the standard combat system. In the standard system with its levels of mastery, going from skill+4 to skill+5 more than doubled one's effectiveness as a fighter, even though it implied only 25% more training. Now the transition is more gradual. When using this optional combat system, there might be situations where a person of low skill might choose to perform two actions per round, e.g., run to a position and fire a firearm. They would have very little chance of hitting anyone, but they could get to position and make the others keep their heads down. Also, there may be times a person with a high skill might choose to make only one attack per round in difficult situations: e.g. armored opponents or at long-range.

Optional Rule: Success and Failure

An unmodified roll of 00 on the percentile dice is always a failure, even if it should succeed, and an unmodified roll of 01 is always a success.

OR

If a larger guaranteed success/failure zone is required, an unmodified roll of 96-00 on the percentile dice is always a failure, even if it should succeed, and an unmodified roll of 01-05 is always a success.

Optional Rule: Plot Points

Using this optional rule, the characters and the GM each receive one Plot Point per session. They can be used any time during that session, but cannot be accumulated across sessions. The Plot Point can be used to do one of two things: the player may make any Chance of Success attempt, by anyone, an automatic success or an automatic failure, or it can make a Quality of Success roll, by anyone, either maximum or minimum. The Plot Point can be used at any time on any character.

Optional Rule: Active Defense

Using this optional rule, a character who is performing an offensive action may shift points from initiative, to-hit, or damage into an active defense. This defense gives

the character effective cover of the amount of points shifted.

For example: Freya shifts 20 points from her to-hit to Active Defense, giving her a -20 penalty to hit and giving her 20% effective cover. Any attack on her must penetrate the cover before it hits her. Active Defense stacks (adds together) with any cover given by the Dash skill, but does not stack with natural cover.

Optional Rule: Nitty Gritty

Using this optional rule, the characters have a much higher chance of getting hurt and dying. Some people prefer a chance of any given shot having a chance of killing a character, and this will do it.

Instead of multiplying STR, COOR, AGY, and END by ten, multiply it by five. Leave everything else the same.

Optional Rule: Flip Dice

Use the reverse of a Chance of Success as a QoS roll - i.e 57% becomes 75 points Quality.

Optional Rule: Organization based Skills

If the GM wishes, character skill choices can be expanded by taking skills from various youth organizations rather than scholastic skills. These skills would be taken instead of rather than in addition to the normal skill choice. This opens up skills which may not be normally available to a given character. Some example organizations are listed below:

Scouts (Middle School)

Firearms, Climb, Adapt, Herbalism, Leadership, Observe, Course, Cook, Ride

Scouts (High School)

Firearms, Climb, Adapt, Herbalism, Leadership, Observe, Course, Cook, Snare, Survival, Tracking, Weather, Ride, Alertness, Instruct, Organize

Explorers (High School)

Firearms, Adapt, Alertness, Analyze, Astronomy, Biology, Climbing, Calc/Comp, Cook, Course, Electronics, Evaluation, Focus, Gymnastics, Herbalism, Leadership, Minerology, Observe, Organize, Overdo, React, Research, Ride, Snare, Tactics, Treatment, Unarmed, Weather

4H Club (Middle School)

Biology, Carpentry, Chemistry, Cooking, Husbandry, Ride

4H Club (High School)

Biology, Carpentry, Chemistry, Construction, Cooking, Husbandry, Repair, Ride

Martial Arts (Any Age)

Martial Arts, Alertness, Blade, Dash, Engrace, Focus, Gymnastics, Tactics, Intimidation, Meditation, Melee, Organize, Overdo, React, Sneak

The Y (Any Age)

Climb, Engrace, Focus, Gymnastics, Meditation, Overdo, React, Streetwise, Unarmed

Civil Air Patrol (High School)

Alert, Analyze, Computer, Course, Cryptography, Driving, Electronics, Focus, Law, Observe, Organize, Repair, Mechanics, Weather, Pilot

Sports (Middle or High School)

Alert, Focus, Engrace, Gymnastics, Intimidation, Psychology, Leadership, Organize, Overdo, React, Streetwise, Strategy, Tactics, Brawl, Blade

Hunting/Shooting Club (Any Age)

Firearms, Track, Snare, Ride, Taxidermy, Alertness, Organization, Sneak

ROTC (High School)

Alert, Focus, Leadership, Organize, plus enter Military Profession at level 2 (non-com)

ROTC (College)

Choose from skill list of chosen military profession, plus enter profession at level 2 (officer)

Reservist/National Guard (Adult)

Choose from skill list of your chosen military profession - i.e. Army = Army Reserve.

Artistic Club

(Various types - Painting, Musical, Debate, Dance, Cooking, Etc.) Cook, Convince, Disguise, Engrace, Linguistics, Music, Painting, Sculpture, Taste, Writing

Amateur Theatrics

Blade, Disguise, Music, Engrace, Taste

Optional Rule: Intensive Training

When running specific profession-intensive campaigns, such as a Spy-oriented campaign, or a Ranger-oriented campaign, replace the character's first year in that profession with intensive training in that profession. This allows the characters to function competently at their profession after only one year.

Example Intensive Trainings:

Spy

Cryptography, Disguise, Entice, Linguistics, Observe

Ranger

Insertion, Demolition, Firearms, Survival, Unarm

Scout & Survey

Pilot, Planetology, Survival, Astronomy, Firearm

Thief

Sneak, Streetwise, Sleight, Picking, Alert

Police

Law, Firearm, Psychology, Intimidate, Evaluate

APPENDIX 3: THE OIKUMENE

Extra-Solar Nations and Colonies

System	World	Name	Founded	Population	Parent	Capital
A. Centauri A	Roosevelt	Roosevelt	1952	610,000	USA	Liberty
	Washington	Washington	1955	195,000	USA	Lee
	Jefferson	Jefferson	1956	550,000	USA	Monticello
A. Centauri B	New Washington	New Washington	1968	133,000	USA	Olympia
	New Missouri	New Missouri	1956	130,000	USA	Truman
	New Alaska	New Alaska	1958	51,000	USA	Northstar
Barnard's Star	Novya Minsk	Novya Minsk	1953	845,000	Indep.	Stalin
	Novya Sibirsk	Novya Sibirsk	1955	64,000	N. Minsk	Nikitagrad
	Novya Moskva	Novya Moskva	1956	378,000	Russia	Gorky
	Ruslan	Ruslan	1956	386,000	Russia	Russograd
E. Eridani	III.7	Sullivan	1989	5,500	CCA	Sullivan
	IV	Falcone CC	1959	101,000	EU	Montefiore
		DeGaulle CC	1959	121,000	EU	Dunkirque
		Free Poland	1961	223,000	Indep.	Krakow
		Xin CC	1961	224,000	China	Xin
		Chiba	1963	140,000	Indep.	Chiba
		The Shah's Iran	1963	192,000	Indep.	Persepolis
	V	Gilbert	1958	480,000	CCA	Penzance
Eta Cassiopei A	III.1	Kazakh	1960	275,000	Indep.	Tashkent
	III.8	Pampas CC	1960	97,000	SAU	Bahia
		Burgas	1960	90,000	Indep.	Burgas
		Zaragoza CC	1960	74,000	EU	Zaragoza
		HautZaire	1961	77,000	Indep.	Kisangani

(Eta Cassiopei A)		Kronstad	1961	77,000	Indep.	Ladysmith
		Panjal	1963	85,000	Indep.	Gujrat
Eta Cassiopei B	III	Ural	1960	35,000	Indep.	Chelyabinsk
	IV.3	Magnitogorsk	1992	112	(Ural)	Magnitogorsk
S. Draconis	I.9	Amazonas CC	1963	61,000	SAU	Recife
		Haiphong	1963	78,000	Indep.	Haiphong
		Faisal CC	1965	53,000	Saudi Arabia	Faisal
		Tepui CC	1965	50,000	SAU	Angel
		Shangsi CC	1966	81,000	China	Taiyuan
	I.10	Severn CC	1963	180,000	CCA	Bristol
	I.14	Waikato CC	1963	462,000	CCA	Whangarei
	IV	Nasser CC	1964	32,000	Egypt	Zagazig
		Kamal CC	1966	43,000	Iraq	Karkuk
		Sandzak CC	1966	43,000	EU	Split
		Haifa CC	1967	48,000	Israel	Elat
		Johore	1967	70,000	Indep.	Taiping
		Plzen CC	1967	47,000	EU	Plzen
82 Eridani	II.17	Kurbulik	1989	224	(Baikal)	Kurbulik
	IV	Baikal	1965	753,000	Indep.	Alma-Ata
Tau Ceti	III.2	Ploesti	1966	63,000	Indep.	Ploesti
		Lagos CC	1966	69,000	Nigeria	Benin City
		Inchon CC	1966	102,000	S. Korea	Inchon
		Altos CC	1967	58,000	SAU	Sierra Blanca
		Cockpit	1967	62,000	Indep.	Negril
D. Pavonis	II	Jersey	1966	1,028,000	USA	Space City

(D. Pavonis)	III.7	Atlantic City	1966	544	USA	Atlantic City
E. Indi A	III	Adelaide	1970	182,000	CCA	Geelong
	IV.4	Broome	1970	188	CCA	Broome Town
O. Eridani	IV A	Petersen	1973	678,000	USA	Sprague
	IV B	Deccan	1975	72,000	Indep.	Warrangal
		Somme CC	1978	51,000	EU	Amiens
		Pfalz CC	1978	57,000	EU	Mannheim
		York CC	1978	61,000	CCA	Kitchener
		Medan	1980	60,000	Indep.	Surabya
Refuge	Kamchatka	Kamchatka	1982	462,000	Refuge	?
	Andropov	Andropov	1982	535,000	Refuge	?
	Bresznev	Bresznev	1982	503,000	Refuge	?
	Refuge IV.10	Refuge IV.10	1982	4,100	Refuge	?
K. Bootis A	II	Teller	1990	282,000	USA	Teller City
K. Bootis B	II	Haller CC	1991	43,000	EU	Koln
		Walesa CC	1991	40,000	EU	Lodz
		Trincomalee CC	1992	37,000	UN	Trincomalee
		Bretagne CC	1993	34,000	EU	Brest
		Melaka CC	1993	35,000	UN	Melaka
		Sahil	1993	36,000	Indep.	Sahil
	IV.20	U Thant CC	1991	312	UN	U Thant
	IV.21	Warhol	1990	554	USA	Warhol
GJ 380	I	London	1990	101,000	CCA	London
	II A	Nairobi CC	1992	38,000	UN	Nairobi
		Kampong Thom CC	1992	39,000	UN	Kampomg Thom
		Odessa	1994	35,000	Indep.	Odessa

		Sakasso	1994	34,000	Indep.	Sakasso
		Barranca CC	1996	32,000	UN	Barranca
		Kanggye	1996	31,000	Indep.	Kanggye
	II B	Montreal	1991	124,000	CCA	Montreal
	VL.5	Charing Cross	1990	256	CCA	Charing Cross
GJ 892	I	Oahu	1991	283,000	USA	Pearl
	II.8	Midway	1991	3,335	Private	Midway
	II.9	Kure	1992	250	USA	Kure
Procyon A	IV.7	Boutros-Ghali CC	1993	215	UN	Boutros
	V	Sapporo	1993	40,000	Indep.	Sapporo
		Gonder CC	1993	34,000	UN	Gonder
		Masaka CC	1994	34,000	UN	Masaka
		Khorat CC	1994	35,000	UN	Khorat
GJ 338	II.8	Kerman CC	1994	31,000	Iran	Kerman
	II.8	Ulaan Bataar CC	1995	32,000	UN	Ulaan Bataar
	II.12	Lexington	1993	220,000	USA	Concord
GJ 338 B	I	New Louisi-ana	1994	208,000	USA	Shreveport
	III	Medellin CC	1996	29,000	SAU	Medellin
	III	Annapurna CC	1997	29,000	UN	Annapurna

Solar System Colonies

World	Colony Name	Founded	Parent	Capital
Luna	American Luna	1952	USA	Luna City
	Lunar Russia	1952	USSR	Tychograd
	German Luna A	1957	EU	Bonn Luna
	German Luna B	1957	EU	Liepzig Luna
	Chinese Luna	1957	China	Hong Kong Luna
	Indian Luna	1958	India	Madras Luna
	Lunar Japan	1958	Japan	Kobe
	French Luna	1958	EU	Copernique
	Lunar Australia	1959	CCA	Aliceport
	Polish Luna	1959	Poland	Gdansk Luna
	Lunar Canada	1962	CCA	Beaverton
	Rep. of Vietnam	1965	Indep.	Saigon Luna
	Vietnam Luna	(1965)	Vietnam	Da Nang Luna
	N. Korean Luna	1969	N. Korea	Yalu
	Lunar Free State	1977	Indep.	Liberdad
	Kepler Republic	1977	Indep.	Keplertown
	Estonian Luna	1982	Indep.	Talinn
	Mongolian Luna	1985	Indep.	Ulan Batar
	Nigerian Luna	1988	Nigeria	Kaduna
Mars	US Mars	1952	USA	Lincoln
	Russia Mars	1952	Russia	Stalingrad
	Mars Japan	1957	Japan	Nara
	Mars Canada	1957	CCA	Regina
	Mars Britian	1957	CCA	Liverpool
	Chinese Mars	1957	China	Changdu
	German Mars	1958	EU	Koln
	Kiwi Mars	1958	CCA	Paihia

	French Mars	1959	EU	Le Mans
	UN Mars Colony	1959	UN	Colonia Martialis
	Martian Poland	1961	Poland	Gdansk
	Iranian Mars	1963	Iran	Esfahah
	Mars Vietnam	1965	Vietnam	Hue
	Colombian Mars	1966	SAU	Medellin
	Mars Australia	1966	CCA	Wollongong
	Bulgarian Mars	1972	Indep.	Varna
	Rumanian Mars	1975	Indep.	Timisoara
	Mars Egypt	1976	Egypt	Giza
	Chilean Mars	1978	Chile	Valparaiso
	S. Korean Mars	1983	S. Korea	Pusan
	Portuguese Mars	1985	EU	Santos
	Mars Korea	1985	N. Korea	Kanggye
Ganymede		1952	UN	Leningrad
Callisto		1952	USA	Eisenhower
Elara		1954	Refuge	Gorky
Europa		1955	CCA	Port Elizabeth
Thebe		1955	USA	Patterson
Ceres		1960	UN	None
Vesta		1961	UN	None
Pallas		1963	UN	None
Hygiea		1965	UN	None
Tethys		1990	EU	Ithaca
Calypso		1990	USA	Refinery
Titan Station		1992	USA	None
Rhea		1995	Indep.	Rhea Town
Dione		1992	SAU	Settlement

APPENDIX C
Mother's Milk Skills

What are Mother's Milk Skills?

Mother's Milk Skills are the skills a character has learned before age ten. Always keep in mind that the real purpose of Mother's Milk skills is not to give more skills to competent adult characters, but to enable a child-character to be played. Mother's Milk Skills should therefore always be appropriate to a child in that culture. For example, a child with a skill in drinking would be extraordinarily rare in American culture.

Selecting the Character's Mother's Milk Skills.

The easiest way to determine what Mother's Milk Skills a character has is to determine what background the character has. The skills should also be appropriate to the specific family conditions of the character. Look at the initial Cash of the character as an indicator. Is this the child of penniless immigrants working their way through low-paying jobs? Then skills like Streetwise and Endear and maybe Brawl might be appropriate. Are the child's parents rich? Then perhaps Engrace or Taste or Evaluate. From a rural background? Maybe Husbandry or Tracking or Weather.

The Player and the GM should decide where the character is from - for example: St. Louis MO. or a ranch in Montana, or a little town in West Virginia, or Miami FL. Where the character comes from should be a big aid in deciding what Mother's Milk Skills the character may have. A kid from a ranch in Montana is not going to have Maritime Skills. A kid from St. Louis is not going to have Rural Skills. The skills chosen from the skill sets available should make sense given the character's hometown.

The Skill Sets listed here are collections of related skills. For example, Maritime skills all relate to shipboard tasks. These Skill Sets are grouped under "Appropriate Skill Sets by character background." Find the Resources which fit your character, then choose four skills from the skill sets listed for those Resources.

Example: Joe Black from a ranch in Montana. Resources: Rural Moderate:

The GM asks questions about Joe's childhood to the Player, and finds that Joe helped out a lot on the ranch, roping and branding cattle, and loved to go hunting with his dad. The Player and GM together decide that Joe should have Riding from the Rural set, Rope from the Wilderness set, and Firearms and Tracking from the Hunting set.

Using the Tables

- Select the row in "Appropriate Skill Sets by Character Background" which most nearly fits the character's background.
- Select the Skill Sets listed in that row which most nearly fit with what the player wants for a background.
- From the Skill Sets selected, choose the four skills the character would most likely have developed in childhood.

Remember that these skills are developed by the character before age ten. They are childhood skills which the character may use as a basis for further development, or may ignore as the player decides. Go for a well rounded, balanced set of skills for the character. The character should be playable from the age of ten, and unbalancing the character will make it less playable. Be guided by the player's input, but don't be limited by it. The player has full control after this point, and the GM has only veto power - as in "I'm not letting that character into my campaign. He just won't fit." - so this is where the GM and Player have equal input on the character.

Mother's Milk Skills Skill Sets

Skill Sets	Mother's Milk Skills in Skill Sets
Rural	**Herbalism, Husbandry, Riding, Smithing, Weather**
Urban	**Goad, Linguistics, Negotiate, Operate, Streetwise**
Technical	**Calc/Comp, Electronics, Mechanics**
Artistic	**Cook, Music, Painting, Sculpture, Taste, Writing**
Social	**Endear, Engrace, Evaluate, Taste**
Sport	**Alert, Blade, Climbing, Dash, Gymnastics, Riding**
Psychological	**Adapt, Goad, Entice, Psychology**
Scientific	**Biology, Chemistry, History, Mineralogy, Research**
Medical	**Drug, Herbalism**
Wilderness	**Adapt, Course, Rope, Survival, Weather**
Martial	**Focus, Martial Arts, Leadership, Meditation, Sneaking**
Criminal	**Brawl, Blade, Melee, Pick, Sleight, Sneaking, Stash, Streetwise**
Hunting	**Bow, Firearms, Snare, Sneaking, Survival, Tracking**
Maritime	**Course, Rope, Steer, Weather**
Space	**Zero-G, Pilot, Astronomy, Construct, Focus, Repair**

Appropriate Skill Sets by character background

Resources	Recommended Mother's Milk Skill Sets
Urban Affluent	***Martial, Artistic, Urban, Social, Sport, Psychological***
Rural Affluent	***Rural, Hunting, Social, Sport, Maritime, Artistic, Wilderness***
Stationer Affluent	***Space, Urban, Artistic, Psychological, Scientific, Social***
Urban Moderate	***Technical, Urban, Sport, Martial, Social, Artistic, Scientific***
Rural Moderate	***Rural, Wilderness, Artistic, Social, Sport, Hunting, Maritime***
StationerModerate	***Space, Urban, Technical, Sport, Social***
Urban Poor	***Urban, Artistic, Sport, Psychological, Medical, Criminal***
Rural Poor	***Rural, Artistic, Sport, Medical, Wilderness, Hunting, Maritime***
Stationer Poor	***Space, Urban, Criminal, Technical. Psychological***

FTL NOW - INDEX

Numerics

A

B

C

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O

P

Q

R

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T

U

V

W

X

Y

Z

FTL Now

Player Name:

Character Name:

	MOD	5X	4X	3X	2X
STR					
COOR					
AGY					
END					
CHAR					
IQ			1/2		1/4
LUCK					

HT: WT:

DESC:

Education

Professions

Constitution Full (STR + COOR + AGY + END) X 10

Hindered

Stunned

Critical

Skill	Plus	Mod	TN

Important Relationships

Kits Bonus

Weapon	Dam	Skin	Ballistic	Ceramic

Character Design Worksheet

Mother's Milk Skills: _____ _____ _____ _____

Initial Stats:

STR _____ **COOR** ____ **AGY** ____ **END** ____

IQ ____ **LUCK** ____ **CHAR** ____ **CASH** ____

Year by year record

Year	Employment/School	Skill Earned	Cumulative Skill	Promote?	Pay	Phys.Deterior.
10	_____	_____	_____	_____	_____	
11	_____	_____	_____	_____	_____	
12	_____	_____	_____	_____	_____	
13	_____	_____	_____	_____	_____	
14	_____	_____	_____	_____	_____	
15	_____	_____	_____	_____	_____	
16	_____	_____	_____	_____	_____	
17	_____	_____	_____	_____	_____	
18	_____	_____	_____	_____	_____	
19	_____	_____	_____	_____	_____	
20	_____	_____	_____	_____	_____	
21	_____	_____	_____	_____	_____	
22	_____	_____	_____	_____	_____	
23	_____	_____	_____	_____	_____	
24	_____	_____	_____	_____	_____	
25	_____	_____	_____	_____	_____	
26	_____	_____	_____	_____	_____	
27	_____	_____	_____	_____	_____	
28	_____	_____	_____	_____	_____	
29	_____	_____	_____	_____	_____	
30	_____	_____	_____	_____	_____	
31	_____	_____	_____	_____	_____	
32	_____	_____	_____	_____	_____	
33	_____	_____	_____	_____	_____	
34	_____	_____	_____	_____	_____	_____
35	_____	_____	_____	_____	_____	
36	_____	_____	_____	_____	_____	
37	_____	_____	_____	_____	_____	_____
38	_____	_____	_____	_____	_____	
39	_____	_____	_____	_____	_____	
40	_____	_____	_____	_____	_____	_____
41	_____	_____	_____	_____	_____	
42	_____	_____	_____	_____	_____	
43	_____	_____	_____	_____	_____	_____
44	_____	_____	_____	_____	_____	
45	_____	_____	_____	_____	_____	

46	_____	_____	_____	_____	_____	_____
47	_____	_____	_____	_____	_____	
48	_____	_____	_____	_____	_____	
49	_____	_____	_____	_____	_____	_____
50	_____	_____	_____	_____	_____	
51	_____	_____	_____	_____	_____	
52	_____	_____	_____	_____	_____	_____
53	_____	_____	_____	_____	_____	
54	_____	_____	_____	_____	_____	
55	_____	_____	_____	_____	_____	_____
56	_____	_____	_____	_____	_____	
57	_____	_____	_____	_____	_____	
58	_____	_____	_____	_____	_____	_____
59	_____	_____	_____	_____	_____	
60	_____	_____	_____	_____	_____	
61	_____	_____	_____	_____	_____	_____
62	_____	_____	_____	_____	_____	
63	_____	_____	_____	_____	_____	
64	_____	_____	_____	_____	_____	_____
65	_____	_____	_____	_____	_____	
66	_____	_____	_____	_____	_____	
67	_____	_____	_____	_____	_____	_____
68	_____	_____	_____	_____	_____	
69	_____	_____	_____	_____	_____	
70	_____	_____	_____	_____	_____	_____
71	_____	_____	_____	_____	_____	
72	_____	_____	_____	_____	_____	
73	_____	_____	_____	_____	_____	_____
74	_____	_____	_____	_____	_____	
75	_____	_____	_____	_____	_____	
76	_____	_____	_____	_____	_____	_____
77	_____	_____	_____	_____	_____	
78	_____	_____	_____	_____	_____	
79	_____	_____	_____	_____	_____	_____
80	_____	_____	_____	_____	_____	
81	_____	_____	_____	_____	_____	
82	_____	_____	_____	_____	_____	_____

EQUIPMENT SHEET

Clothing and Armor

Kits

Electronics

Accessories

Weapons

Miscellaneous Equipment

Vehicles/Mounts

Personal Information

Date of Birth:_____ **Place of Birth:** _____
Background:_____
_____
_____
_____
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_____
Marital Status:_____ **Spouse:**_____
Children:_____
_____
_____
_____
_____
_____
_____
Current Residence:_____
_____
_____
_____
Family (siblings & parents):_____
_____
_____
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_____