

Briffo

Home world entry sequence: Ground1, Menton.

-101 The initial probe to Briffo is launched as a combined effort of Ground1 and Menton (as was done similarly at Tillican).

-62 Arrival of Centerdom. Second planet is a cold gravity well with limited indigenous life forms (advanced cold water bacteria) which was an initial contribution to bio cross referencing.

-46 Collector established in secondary star system.

582 Death Seed affair. An attack by terrorists to eliminate all males from Briffo system. Thought to be inspired by a religious fringe movement based on Ground-1. Led to sophisticated real-time detection of bio-permutations.

750 Pipe to Tillican.

979 Pipe to New Orn.

1017 Pipe to New Sotia.

1082 Proliferation of microatomics from Tillican.

1148 Proliferation of microatomics from New Orn.

1152 Proliferation of microatomics from New Sotia.

Species Profile by HumFed Two: Lighter black skin with strong build. Slightly less than average height. Flame red to near day-glo red hair. The drift from genetic engineering was minimal.

A pipe from Menton and Ground-1

Brun-2

Home world entry sequence: Ground3 then later Ground1

-50 HF1

Ground-3 ships arrive at Brun-2. Primary star system was surveyed first. The primary has a single planet orbiting at approximately $0.157e8$ kilometers from the primary. Autobase Brun is established -50.228. Centerdoms continue to the secondary system and arrive -47.026. This is an m5 star system with three gas giants and 29 moon planets and planetoids. Most of the moon planets have atmospheres. The first settlement was made on the first moon of the first gas giant (called 1st-within-1st-within-1st). The moon had an average temperature of 168 degrees K. Nearly one half of the first wave (all of one ship and a half of another) stayed on this moon and formed the colony center Daymott (see Ground3 history for Daymott mythology).

The remaining colonists split, some with supplies, going to the 2nd moon of the 2nd gas giant where Skeen, a colony center is established (about 90 people initially). This moon/planet was colder than Daymott (average temp is about 20 deg K less), but it is one of five or six moons with an ample supply of water.

The final group of about 70 people and supplies choose the twelfth moon of the third gas giant which is named Brun-out. These three bases were complete with associated communication and appropriate space automata by -45.260. The early colonization patterns were similar to other systems rich in hydro-carbons and cold water. The famlee affiliations of the first wave from Ground3 were with the Nrell Famlee (Daymott) and the Spiron Famlee (Skeen and Brun-out).

301 HF1

Entrance is made into the Brun-2 system under agreement of the Script. They concentrate on the colonization of remaining 3rd gas giant planetoids. These came to be known as the New Gobain techo-colonies, which also became a center of planetoid architecture during this period. The Cold Tower in the New Gobain techo-colony remains an intriguing mixture of functionality, space illusion and early Humfed One colonial romanticism.

368-898 HF1

A Feelz was constructed around the secondary star of Brun2. Nrell and Spiron Famlees continue to bring colonists in from Ground-3 and other home world systems (like Menton and Ground-2, but under Famlee direction). Subsequent planetoids are colonized from Daymott (Promx, Kindglar, Redglar, Nightglar, and other Ground3 Famlee based colonies). The surface temperature was significantly raised on a number of planetoids (as usual) often in a single polar region. This was the first system to create what became known as Feelz systems (see HumFed One homeworld histories). All planetoids are in Feelz status by 898.

500-1492

Pipes: As with all Humfed One systems pipes initially came from the four home worlds. By 680 there is a regular pipe for Firsts. The next pipe from Fist is established 742.

Species Profile by HumFed Two: Somewhat greater than average build. Jet black skin with hair color ranging from pure platinum blond to almost "green". Beards on females are recessive at about 6%. Drift through genetic programming is moderate.

Ellore

Home world entry sequence: Ground3 then later Ground2 and Menton

-98 Centerdoms depart Ground3 system. First Famlee (Jonz Famlee, not a force in HumFed Two or later history) had one centerdom and the two others have crews from Ground2 groups and Menton clans.

-38 Arrive Ellore. Indigenous lifeforms are discovered in the cool icy, but habitable world. This became the colonists main settlement, from which they built new probe ships and explored nearby star systems.

51 Ellore Safe is established with a self sufficient economy and growing population. New ships arrive on a regular basis from Ground-2 and Menton. Suprisingley industry is centered around the first planet and its moons (why?).

75 Ellore Safe constructs a number of deep space observation sites outside the orbit of the seventh planet. Ellore becomes the foremost deep space observation and autoprobe system of HumFed One colonials at that time.

260 Early experiments in micro atomic energy are conducted at Ellore. The results are transported to Tillican where self contained micro atomics are developed several hundred years in the future.

428-495 Project Light Eyes. A number of deep space probes are launched to collect data. This project is done with direct coordination of HumFed One (see HumFed One homeworld histories; Colonial continuation of space probes).

750 Pipe to Tillican.

920 Pipe to New Sotia.

Species Profile by HumFed Two: A random mix of Gr3ian, Gr2ian and Mentonian human subspecies with all body sizes. Light to dark skin with jet black as 3% recessive. Hair color is often red but typically can range from gray to brown. The female beard, mane and Mentonian face is also 3% recessive. Drift from genetic programming is minimal.

Erroran

Home world entry sequence: Menton and three Ground3 Famlees, Primatomz being the most significant.

-86 System departure by Centerdom.

-26 Arrival at Erroran system, an orphan G7 primary with no planets that will (with difficulty) become an energy collector for Erroran and an M1 secondary with two substantial planets (gravity wells) and a single gas giant.

-22 Centerdom arrives at secondary star system. Base is set up on the third moon around the gas giant (called Initialla). The system has a number of gravity wells, but there is an excellent coldwater harvest in that secondary system.

-5 Energy systems established in the gravity wells. In system colonization commences on Eroran.S.1.1 (second moon of second planet in secondary system), named Erolife. Erolife is a geologically active planetary system. The life forms of this Erolife are based on thermal hot water plant forms and proto-crustaceans.

There is third life form designated as a primitive ice traveller (proto fish?). The human culture that settles Erolife is a curious mix of Ground3 Famlees and Mentonian clan culture.

38 Autofab colonizer arrives at the primary star system. The new colonists come up with the monicker "Touchy".

210 Metnonian core moves from secondary to Touchy. The traditions established at Touchy include Toman Lee, Depths and Lips Name clans (see Metonian home world history).

245 Touchy becomes artistic and dramatic center for Erroran system.

783 Pipe to Wydeon-3.

1089 Pipe to NewOrn

1404 Primatomz, Elder-Dimspeeds and other Famlees hold subassembly for for the combined progressive development of space culture. Socioists psycho-spacers, cryo-psychologists, automationists and neo-industrialists all attend. This collection of leaders established the parameters of Human Federation Two.

Species Profile by HumFed Two: Copious body hair, dominant gray hair (think of the hair on a gray cat) with above average body build. Recessive traits are bearded women at 12% and Mentonian face at 33%. Drift from genetic programming is moderate.

Firsts

Home world entry sequence: Ground1, then Ground3 and Ground2.

-122 The combined effort of Ground1 SubNat Space Org and Ground2 Gnat Space Admin launched earliest tech level Centerdoms to Firsts system. Automation of cold hydrogen rich systems was still in refinement when this system was settled. Firsts is a unique system and an ideal one for colonization. The reason is the system has a very high energy collector secondary (and A5 class star) that generated enough energy to warm the secondary with its K8 class star.

In the secondary system the first planet was cool (272 deg K average) but sustained abundant non-intelligent life. Given the technological capabilities at that time it would have been better if this planet gravity well planet wasn't colonized for another 200 years. The colony tended to create a technological ghetto that "sinc"ed (sucked) more energy than necessary. This episode in colonization became a textbook case for later socioists and social dynamicists. The planet has a high gravitational field causing the colonists there to be relative paupers until the end of HumFed One (even with the superconductivity lift engines).

The second planet with 13 moons and planetoids is a minimal cold water planet. It was sufficient for early autofabs to sustain operation.

-101 Second and third wave colonizing ships arrive and organize the colonization of the primary system.

-92 Energy collectors and associated colonists establish operation in the primary. Initial contract for commodity circulation with first planet colony of the secondary system is established. The colonists operating in the secondary considered this the beginning of a "great new space culture" that gave rise to interesting mythologies and rising expectations. The energy collector system at Firsts primary really became thought of as the prime example of a new off world site, but empirically was no more advanced than others developed later.

-52 Intercouncil of Secondary-1, Secondary-2 and Enecek of the primary meet to address problems facing the colonials due to a lack of direction from the home world space orgs (mostly due to sheer distance and the magnitude of the colonization effort). There was a

disagreement between reps of Enecek and Firsts Secondary. Energy was being used to RAPIDLY construct (for that tech level) autofabs in the first and second set of moons of the primary Firsts system. Enecek was controlled mostly by second and third wave colonists who now wanted to expand.

Some of Enecek ideology can be traced back to "Delete the Planet" movement in early GR1ian space travel planetary history. In this case they emphasized the importance of autofabing in the Firsts primary.

-45 A series of battles took place for the autofabs in Firsts primary. All of the fighting took place near the second and third moons. These battles were fought almost entirely with missiles. The prime military objective was for the Eneceks to control a number of hydrogen rich collector systems. This became known as the Autofab War. Fighting ended by -43.

-22 The first planet in the secondary disassociated themselves more and more from the concerns of the Firsts dual star system. They created facsimiles of certain Ground1 and Ground2 homeworld cities.

-3 Mentonian influx into Firsts systems comes with the assertion of the Script. All technology is imported from space to Firsts (the name of the naturally inhabitable planet). Firsts the Planet becomes known in HumFed One mythos as a rugged colony world that sticks to many primitive and rugged ways.

78 Planstod and Weakstrom Famlees conglomerate from Ground3 trade 90% of their rights in the system for direct conversion to Enecek hard commodities. Many lesser famlees were emerging from Ground3 like the Eestrom group which was absorbed in a number of post HumFed Two League Cosmos organizations.

798 Pipe to Onafix.

1136 Pipe to Irif1.

Species Profile by HumFed Two: Either short muscularity combined with brown skin and black hair or gold hair as a recessive trait at 33%; or fair skin with gray hair and black skin and platinum hair as a recessive trait at 16%. Drift from genetic programming is moderate.

Fist

Home world entry sequence: Menton, then Ground2 and last Ground3; system is eventually under Famlee control.

-168 Probe data from Fist is returned to Menton and 16 years later to Ground2. These two homeworld systems organized the direct colonization of Fist, a cryogenic system and a very strong energy collector system.

-146 First Centerdom arrives from Menton system into the Fist system. The Mentonians under 23rd clan unity arrange collectorship under a single cryogenic planet. Economic growth in Fist is slow at first. More significant is the establishment of a center for cosmic unity. Each home world space org sent various social scientists, mathematicians, archivists and the like after invitation to Unicos-the center for cosmic unity. In the late HumFed One period Unicos

became a known point of socioist mastery of Conduits.

-140 Base economy established. Processing elements in old red dwarf star system is self sufficient. The emphasis of the activity is not economic growth but on theoretical predictability.

-116 A second centerdom arrives from Ground2. This one is specifically by the Speortians on Ground2. The new arrivals initiate new automata development.

-63 Initial exploration of energy collector capability of Fist secondary star system. "6Beam" experiments conducted.

-40 Symbiotic eco-connections established between Fist primary and Fist secondary systems. The effort was orchestrated by Dansi Famlee of Ground3.

7 Arrival of two more centerdoms from Ground3.

92 Hyperenergy systems constructed by Mentonian 23rd clan alliance, Speortian Culturals and Dansi Famlee alliance.

742 Pipeline established to Brun2

802 Pipeline established to We-Made-It (Onafix)

Species Profile by HumFed Two: Random genetic combination of 3 home world subspecies into varying sizes. Very light skin tends to be dominant at 45% as an average of the population with random hair colors. Shift from genetic programming is maximal.

Home World Histories through the Human Federation One

-100 through 1492

A brief review of home world space exploration organizations

In the Ground-1 system the SubNational Space Org drives in system development and out system colonization. In the Ground-2 system it is Gnat Space Administration. In the Ground-3 system where local in-system space was developed earlier than on either Gr1ian or Gr2ian systems typically early out system colonization would be ran by a coalition of Famlees but within a couple hundred years colonization was nearly always organized on a single Famlee basis. The Mentonian clan cultures on a few occasions organized their own in-system based colonization efforts but more often worked in a symbiotic relationship with the other three in-system colonizing efforts.

Communication and cultural dominance of the home world systems

At best communication was at the speed of light. Turn around for a message until the end of the 2nd Federation was in the score of years. The space orgs in the home systems continue to conduct humanitys march to the stars. For all practical purposes, the home world systems became the psychological center of the Human Federation One (HF1). In 1492 Ante HF1, over one and a half a centuries since the combining of human kind, when all vestiges of psychological domination have been swept free, the new human worlds still had to trace their origin to the original four -- and back no further. The mystery became an

institutionalized mythology under Wewephufar in HumFed One.

Home world views of colonization

The influence on early colonies varied from system to system. Strongest early influence was in the Beautica and Firsts systems (influenced by the combined efforts of the Sotia, Orn and Speortia Combined National Space Org).

The early dominance of the Dimspeed Famlee in the Ground-3 system was local. The Dimspeed Famlee did not carry cultural momentum into early HumFed One. The religious fervor of space colonization typical of the -351 to -50 period had decentralized and secularized. This is easily witnessed by the fact that new individual Famlees organize expeditions into the star systems.

Given the early lead in Ground-3s in system space-industrialization, the Ground-3 in-system economy is fully developed by 400 HF1. On each planetoid in Ground-3 there is a substantial population. Ground-3.0 (zero being the first planet in this system) becomes the early model of a massive energy conversion system. The planetoid has developed a microcosm of radio/hot star/ collector systems used over and over again in early HumFed One colonization efforts.

Ground-3.1 (second in-system planet) in the year 400 has had the temperature effectively lowered so that hot and cold areas are preprogrammed weather for optimal hot-cold energy production. The two moons of the Ground-3 homeworld are densely populated. The indigenous lifeforms for the two moons are protected (with dense population limited to very specific areas) under Famlee common law. The dense cities conform to pre HumFed One Hot Spots. The Ground-3 system produced more colonization efforts than the other home systems during the Human Federation One.

There existed a prevalent mythology in all the homeworlds concerning life in the colonies. Colonist were thought to live in deprivation. "Living in a space colony is like living your whole life under cold water". In reality the opposite was true. The new technology developed by the various colonial systems produced great social abundance in a few decades.

Prime targets for colonization from the four homeworlds are gravity well systems. There is considerable interest in Beautica and later in New Orn, New Sotia because they are "like home". There are secondary interests in other gravity well systems like Briffo, Firsts, We-Made-It and Ellore.

The Script and initial HumFed One space legalities

In 75 an important agreement was reached at the second council of the Human Federation (the first council was the creation of HumFed One, typically these homeworld based councils were held every 50 to 75 years). Each home world space organization had a percentage claim of each colonized system. Rights could be traded or waived. Once waived and claimed by another space org, they could not be regained without renegotiating. Rights did include scarce in-system commodities. This arrangement operated de facto throughout Human Federation One. It was also called the Script and the first real basic statement on space law.

Cordance or efforts of the Court is Dense culture is an example of a pre-socioist attempt to deal with dis-functionality and violent crime in Ground-1 society. It was a debated subject among all home worlds, especially among Gr3ians, who considered it a regression in intelligent behavior. It was continued under Script with some misgiving.

The distinction between space and planetary law was weak during HumFed One. All planetary systems (and any star cruisers travelling out-system) were considered an extension of in-system law. This really was the state of affairs until the end of HumFed One. However there existed pre Humfed Two legal agreements. One of the more well known was the Biosphere Protection Common of 202 HF1. Another important Common was Open Combinatorial or the open combinatorial acceptance of cross cultural myth making by competing socioists.

The New Humankind: Life on the Home worlds during the First Human Federation.

Bureaucracy under HumFed One

Going into the HumFed One all the governments with the exception of Mentonian clan cultures had some form of collectivist bureaucracy (national economies either under "public" or "private" political control). Because of the enormous increase of commodity production given the new space economies there was sufficient "trickle down" in the various collectivist systems coupled with primitive social engineering (labeled as state or nation or government program driven by later sociocists) nearly all urban peoples had food, shelter, clothing and the like.

Because of anarcho-collectivist realities of the planetary economies, actually only about 50% of the society ended up employed. Nearly all of these jobs were service oriented or technically oriented. Of course by HumFed Two this all had changed because the meaning of employment had changed. Thus in HumFed One there were a large number of people that were on the fringe of society. There was Fringe art, Fringe music and the like. These people could live off the residue commodity production (in a relative sense, considering what things were like prior to space colonization) and yet remain culturally disenfranchised. Often they would mime in outrageous ways the people in the servo-technocracy. One common theme was the glorification of collectivist fast-food outlets. The Fringe traditions survived as art forms and religion into the era of League Cosmos (See League Cosmos Religions- Church of Situ and Luck).

Racial intermix of humanids

By 1492 HF2 there was a substantial intermix of HumFed One home worlders. The Mentonians always did very well when they migrated from the Menton in-system to one of the other home world systems (see description of Socioists and HumFed One social and behavioral sciences for a description of Mentonians in home world and colonial in-system affairs). Off-system species of humanity were either greatly liked (by the majority the native in-system population) or greatly disliked and mistrusted. This tendency was greater when Gr1ians or Gr2ians migrated to the Ground-3 in-system. But keep in mind that within the Ground-3 in-system cultural core (i.e. Famlee space associated groupings) there were no conflicts off-system humanids.

Misc facts

All the intracolony and migration in the home world systems helped produce a homogenous culture. By 300 HF1 less than one percent of humanity lives outside an urban complex (euphemistically referred to as a "city"). This is for a number of reasons.

The Wewephufar religion/philosophy permeated home world urban complexes. It became the basis of mysticism that continues into the era of League Cosmos.

Fringers could often gain cultural enfranchisement if they gained passage to a new in-system simply because more powerful people would be interested in them.

Cryogenic culture

By 550 HF1 or so, cryogenics became available to a large percentage of the population. People would spend much of their lives in cryo. Using this method there are people who have lived from HumFed One into the League era. It was soon understood by cryo-psychologists that the subconscious mind was active while under cryogenic suspension. Methods of post conscious awareness and even learning were developed. This became especially important in HumFed Two under Famlee collective subconscious and with the emergence of the Church of the Galactic Dome. But that is a subject in its own right.

Home world urban complex architecture and demographic functionalism

On each homeworld urban complexes were rebuilt and restructured. In most cases old architectures were saved (or least the best examples of) as Archaic Areas. New construction was an extremely compact maximum use of vertical and horizontal dimension. Some of the sprawling demography typical of pre HumFed homeworlds was for the most part removed in favor of Demographic Functionalism effectively propagandized by homeworld collectivist governments.

Demographic Functionalism allocated various planetary spaces for alike groups. Young children and old people nearly always lived during the day near the Fast Foods. Fast Foods were directed under various ownership schemes that fed those on a temporal basis from the Growautos (high tech planetary farming). Of course there were many specialty foods available for private and public preparation. Adolescents typically went to school at Schools (boarding school like camps outside the urban complexes, typically accommodated for teenage personality adjustment and training). Those who did not live in DemoFuncs (for example, a hermit in the forest) could be removed if sufficient eco-training could not be displayed. Punishment varied greatly from in-system to in-system, from culture to culture. By 800 HF1 Demographic Functionalism was one of the prevalent urban mythologies on all homeworlds.

Entertainers and their combinatorial art forms

As for artistic endeavors, the primitive multimedia creative tendencies of early pre HumFed homeworld societies come into their own. Literature, art and music often combine into a single "movie" of epic depths and proportions. By 900 HF1 "entertainz" (or multi-media

movie "books") can be enjoyed in cryogenics or while sleeping. This form of art came into its own after developmental use of the entire rational and irrational subconscious brain. Also Fringers developed art and anti-art in the form of non-secular religious and political movements. This is discussed elsewhere.

Technology in the home worlds

By -25 HF1 all four homeworlds have learned to use high temperature superconductivity to build less expensive propulsion systems out of gravity wells. This new technology also generated a quantum leap in the ability to move commodities in-system.

Computer technology continues to advance to molecular automata levels. The development of machine intelligence centers around artificial evolution of recombinatorial encoding techniques. The studies of machine intelligence and genetics becomes intertwined.

In the field of biology genetic engineering is known about but is conservatively practised in the home worlds. At the end of HumFed One many of the colonial in-system science centers have programmed permutations to enhance the local human species in several important capabilities including physical strength, athletic ability and mental capability. This is discussed further in the history of the Second Human Federation.

Cyborging and biocomputer interfacing were well developed by 100 HF1. Many local homeworld cultures disapproved of radical modification or redesign of the human body. None the less, as spacers became elderly it was common to undergo bio-computer interfacing. This was much more common in the colonies. A BioComp in the homeworld culture tended to be viewed as a Fringer.

The technical specialization of parallel development of machine intelligence and biochemistry was fortunate. The Death Seed affair; 582 HF1 in the Briffo in-system spurred the development of permuted realtime automata that could recognize either benign or destructive biochemical N-furcations the automata came in contact with. The first operational prototypes were operational by 682 HF1. All in-system entry locks had the biodetectors by 770 HF1.

Macroatomic theories were known several hundred years prior to the formation of Hum Fed One. Practical applications were most prevalent in hydrogen rich colonial systems (-100 HF1 until the proliferation of micro-atomics). See Hum Fed One vocabulary and jargon. Micro-atomics started to proliferate in colonial in-systems after 1000 HF1. These power systems became the basis for starship power under HumFed Two.

By mid 150 HF1 century there were several small experiments using gravitic engineering. These remained a curiosity lending more practical applications in the field of macro-atomic engineering. Theoretical work continued in gravitics throughout HumFed One on into HumFed Two with technically oriented colonial in-systems taking the lead in development.

The detailed theoretical basis for faster than light travel was known by 1300 HF1 but it took another 1600 years or so to perfect it and make it practical (and bring an end to HumFed Two).

The New Humankind: Life in New Colonial Systems

Typical colonization patterns of G, F and other high ultraviolet radiation and high energy systems:

Energy collector systems like Stars End, the secondary in Firsts, Irif-1, New Orn and Beautica are a rarity in the cosmos. During HumFed One the distance from the technological "center" (the four homeworld systems) was an overriding factor that determined the relative importance of a system rich in energy collection. Centerdoms entering an energy rich system would take refuge behind a planetoid. The entering ship was fully prepared because the star type was obviously known prior to entering the system. An entering ship had sufficient apriori knowledge of a star system due to auto-probes (typically too numerous to mention in this general historical outline).

Energy was usually not directly exported at early (0-600) tech level, but high energy commodities were. In systems that had comfortable, inhabitable planets (like Beautica, New Sotia and New Orn), the new colonists were well supported by large amounts of cheap energy. They were, however cut off from spacer society because of the gravity well. This was minimized under the HumFed Two. The best of all possible energy collector systems had a mini-gravity well even if artificial (see HumFed One history- StarsEnd-1).

Typical colonization patterns of gravity well systems:

Gravity wells can exist in nearly all star type systems. They are extremely rare in systems with stars hotter than high F or low A main sequence ratings. As mentioned, the gravity well systems tended to be the most closely monitored by home world cultures. And colonists that travelled to gravity well systems did so not so much because of advanced space technology, but because these new planets reminded them of home. The "weller" economies were augmented by local spacers, but "wellers", later often called "Feelz" developed a primary planetary economy with an associated biosphere.

The "Feelz" (who were often terraformers in many cases) deliberately created biospheres in planets with sufficient gravity to hold and capture atmospheres. Often this was done to a single pole of the planet(oid) creating unusual weather conditions that varied from system to system.

Typical colonization patterns of reducing systems:

Good coldwater systems like Brun-2, Ellore, We-Made-It, Firsts, Eroran and the like are rich in hydrocarbons and in hydrogen rich chemistry (e.g. water). When a Centerdom entered a coldwater system it would leave a large group of colonists to do energy collection from the primary base near the cool star because of minimal energy concentration in a reducing system. One or more groups would establish a colony center for optimal collection of hydrogen rich chemistry.

Reducing systems were a basic economic contour of HumFed One, being deficient in high energy output and heavy elements. These were much easier to establish in high energy systems. Reducing systems typically had an abundance of hydrocarbons, water and other hydrogen rich chemistries. And this was the basic commodity exchange for

HumFed One and even well into HumFed Two.

Coldwater systems (a reducing systems with an abundance of water), as they came to be called were heavy users of macro-atomic power (see discussion under technology). Large collectors were constructed close to the star as part of the inner colonies. The power of the collector system was approximately proportional to the time of construction in a cool star system during HumFed One.

The tradeoffs in early HumFed One coldwater systems were energy units expended to build the collectors vrs energy units expended to collect hydrogen chemistries. Transportation from the inner core of a cold water system to the outer harvesting area was of prime importance. Intra- star system systems developed rapidly with a large collection of hardware to support all the shuttle activity. Typically this development cycle was stable after about 20 to 30 years after initial colonization. The in-system commodity potential was measured in TEUs.

Colonies were built around heat sources, artificial or natural (in some cases). Energy collection was centered around a colony as was the collection of hydrogen bound and reducing substances. The abundance of reducing substances was shipped to the homeworlds. In the late HumFed One a number of hydrogen rich cold systems had established direct trade with other high energy collector systems. Obviously cold water systems tended towards the energy development of energy conservation systems. As a social factor usually there was a greater amount of potential "real estate".

Banded systems have both the resources of a collector and reducing system. Typically they are hot K or cool G star systems. A complete banded system also has a inhabitable gravity well.

General look at colony culture

Circa 360 Any planetary system with sufficient in system resources could compete at least on a small in-system scale with homeworld cultures. Life was austere for first in colonists. For them the main objective was the establishment of a local life supporting econo-bioshpere before supplies ran out (follow up Centerdoms were rare even in the days of early colonization).

But even in the earliest days a distinct lifestyle was evolving for the non-gravity well spacer. The most physically confined yet subliminally spacecious were the permanent (or in some cases semi-permanent) crew of a Centerdom star cruiser.

Semi-permanent Centerdom dwellers

Living in low gravity in sheltered environments was unique, like living under water. But once an in-system energy/commodity system was established then living could be quite spacious. The life style of in-system colonials was at the same time more decentralized (because of long distant physical and cultural control) and more centralized (in the sense of the severity of the daily regimen, in terms of life and death) than collectivist homeworld cultures.

Colonial art and literature

Art and literature of in-system colonies was simpler, more straight

forward and very romantic compared to homeworld literature and art in HumFed One. Eccentric colonial art was most famous in the "Asteroisures". Typically a small planetoid (5 to .5 Klom average radius) that was of no particular value would be artistically "sculpted" into something. Some of the Mentonian colonials were particularly fond of this. One of the more famous Asteroisures was a complete in vacuum replica of a GR1ian -300 HF1 city.

Colonial continuation of deep space probes

The exploration of deep space was continued by smart machine probes (micro Centerdoms). By 400 HF1 the originating activity of deep space probes falls directly on the colonies rather than the homeworlds (after all they are closer to these systems that need to be probed). Project Bright Eyes in the Ellore system is the first of many deep space probes. A direct result of HumFed One space probes was the Diaspora as it is called in the League Cosmos era. The probes were built and launched continually from 400 HF1 into HumFed Two. See HumFed Two history for some of the more significant new systems of that time.

Pipes and conduits

By 700 HF1 regular travel patterns of relative short distances (say 30-60 years in real-time) between colonial systems in addition to regular travel between the colonies and the home systems. These new inter-colonial routes were called Pipes. By 1136 HF1 there were two large Pipe systems. One was based heavily around Beautica, NewSotia and New Orn. The second was based around Onafix and firsts. By 1100 a third Conduit (or large pipe system) was developing in what could be called the Diaspora but that is normally thought of as HumFed Two history.

The transfer of culture between systems in the cyclical conduits (see specific in-system histories for conduit topology) was easily recognized by HumFed One social scientists. They measured IOTs (Information Over Time) that traversed the pipes in the form of symbolic, empirical, ideological and mythological information. Pipes and Conduits are significant in HumFed One social and behavioral sciences (see discussion of Socioists).

Behavioral, social and political techniques under HumFed One

The earliest origins of HumFed One social sciences came from a number of early planetary sources. Collections of organized thought of HumFed One and later social and quasi social movements had their home world origins.

There existed a number of religious social movements from early HumFed One. These varied greatly from planetary culture to planetary culture. For example anti-elite collectivists superseded earlier attempts at the direct anti-state church(es). The Mentonian cultures were nothing short of brilliant when it came to behavioral sociometry, but before contact with GR1ian, GR2ian and GR3ian homeworld cultures had never directly dealt with the practical aspects of bureaucratic collectivism. Often these early attempts at social engineering often focused on disguising or illegitimizing collectivist power and alternatively use state power as a structural social tool.

There were a number of early HumFed One governments that operated as enlightened dictatorships. A good example are the Liberty Totalitarians of Ground1. They were a cultural remnant of the Republic of Gobania (see early pre HF1 history). The enlightened dictator approach expanded the social commodity base at the cost of myth integration. There also existed at that time a number of doctrines that focused on individual and partisan acts of conscious violence (this obviously included a number of pacifist or semi pacifist movements).

By -50 nearly all home world social scientists and social engineers (with considerable input from Mentonian cultures) recognized that the collectivist culture of state, nation, company and bureaucracy to be the major impediment to behavioral and social progress. They understood the origins of the problems but were caught in a loop system of pro-state, neutral-state and anti-state external programs.

Socioist development

The cryogenic culture of suspenders, the long travel times between colonies, and the simultaneous necessities of decentralization and efficiency of colonial in-systems allowed social and behavioral scientists to build cultural programs that had built in behavioral averages. People were reprogrammed without the use of governments.

Thus the Socioists were able to greatly reduce bureaucraties in space colonies and isolate (and program) its spread from the home worlds. They were excellent myth makers, myth to idealogical/idealogical to myth transformers and symbolic programmers of their time. They were not utopian in the slightest. But they knew how to use the spontaneous utopianism of secular religions. Often it took many years for them to execute some of their social engineering programs.

From the view social dynamicists of League Cosmos, the Socioists were considered helpless elitetists. They had not yet learned to make their own methodology a cultural program, but they were the for runners of HumFed Two and League Cosmos political affiliations (like Liberty Social Dynamics Democrats, the Static Machinists, Stoic Social Dynamics Democrats and Sovereign Cooperativists).

The socioists of Unicos (see HumFed One history of Fist in-system) became adept at using the conduit cycles in the colonies. They first applied the so-called 50-150 rule as an optional unit of social organization.

The era of transient secular religions

There were nearly scores of secular religions and quasi-philosophical orientations during HumFed One. A number of them were suspender related. Others were oriented towards the sanctity of all life (thus no genetic enhancements were made on the Glar due to the Ground3 based Biosancts). Nearly all of these religions had some form of secular monotheism. It was not until HumFed Two that continuous colonial space religions emerged.

Warfare in HumFed One

Battle had ceased to exist between nations, empires and other collectivist groups by HumFed One. Space battle was rare. The only

major battle between ships was actually before year zero. See the history of the Firsts in-system. There were isolated incidents of policing and spontaneous violence. The worst case was known as the Death Seed affair. A group from Ground-1 that had an irrational belief system concerning relations between Tillicanese and Briffosians. A biological attack was made against the Briffo system by a small revolutionary group. See the Briffo in-system history.

Ships of the HumFed One era had tech level missiles of the time (if they had 1, most in-system "police" did) and tech level energy weapons. They were primitive compared to the technology of HumFed Two after the Himist-Psychoanarchist war between the NewOrn and NewSotian systems.

Paradoxes and mysteries of HumFed One

In 1023 a Centerdom arrived at Irif-1 from Fist. It had one passenger, a small female child about 7 years old. She said she was the captain of the ship. There was no crew. There were no records of one. No record was EVER found of the construction of the Centerdom.

Implosia Ren of Touchy (see Erroran in-system history) was able to remember the environment around her under cryogenics without mental interfacing devices. It was as if she was awake.

A secular religious group on the Ground-2 home world could create lights at will after fasting to a near death.

A man was found at the bottom of a cave of a cryogenic planet in We-Made-It in-system. There was enough natural heat, oxygen for him to live. He grew his own food. He knew common HumFed One language. He claimed to be born there. No starship was found that could deliver him.

(Three excerpts from Numoes Strangeness In Space, NetPublished at Initialla, 956 HF1).

Irif1

Home world entry sequence Ground3 and later Menton and Ground1

-42 Eestrom Famlees arrive at Irif1 system. The in-system consists of a high energy F5 primary star system with 2 planets and 4 moons. The energy rich system energy collector was integral to early Famlee technology. The secondary star system is a cool M1 consisting of 3 planets (including 2 gas giants) and 24 planetoids.

The outer planet in the primary system has a relatively thick inert gas atmosphere at a hot 400 degrees K. This became a unusual colonizable high energy planet. All but inert gasses were burned off.

-10 First colonization of only moon of 2nd planet of primary system. Maximum advantage is taken of energy collector capabilities. The density of inert atmosphere provided for gravity well manufacturing. The colony was named Factura.

-26 First colonization of secondary system. This one is rich in hydrocarbons. A symbiotic space economy is rapidly set up between the energy colony at Factura and the future Feelz system in Irif1.s (the

future name is Pandrix).

10 Colonists arrive from Menton and Ground1. They are rapidly integrated into the expanding space society. They are integrated into the emerging "Feelz" system at what is now called Pandrix.

78 Weakstrom, Planstod and Eestrom Famlees negotiate with Subnat Space Org and with Gnat Space Administration via HumFed One protocol and have the Script modified for homeworld claims.

306 Development of a interstellar drive systems with new efficiencies is a major task initiated by Weakstrom, Eestrom and Planstod Famlees. Most of the technical work is done at Cradle- a planetoid around the second planet of the Secondary system. Cradle becomes a prime exporter of Centerdom (slowboat) technology to other Famlee cultures.

420 Feelz conversion of systems is secondary is initiated from SubNational Space Org (Ground1 system based) and the Hope Humanity Clan culture from Menton.

1096 Pipe to We-Made-It.

1109 All systems in Irif secondary are functioning Feelz Systems.

1136 Pipe to Firsts

1139 Pipe to Fist

Species Profile by HumFed Two: light to dark brown skin, with an average body size. The hair color is red to flaming red. Recessive bearded females account for about 33% of the population. Drift from genetic programming is slight.

Jargon and vocabulary of Hum Fed One and Two

Anarcho-collectivism:

(socioist and cultural sciences) Phrase to describe bureaucratic collectivist governments that are dehumanized to the point that negative utopias became positive.

Autofab:

A base commodity production center. Able to produce incredibly predictable and quantitative supply of base commodities.

Biocomp:

Biocomputer interfacing. Hard wetware.

Biosanct:

(1.) Protection of all living things. (2.) Zero wastage of all sperm and ova.

Bureaucratic-Collectivism:

(1.) General description of home world governments. (2.) (Socioist usage) Description of nation/collective state and anti-state

behaviorial patterns.

Centerdom:

A slower than light star cruiser. In the 1000 to 50,000 ton range.

Conduits:

Cycles of Pipes.

Demograhpic Functionalism :

The architectural division of society into energy levels (age, noise, calmness and the like).

DemoFuncs:

Cities.

Entertainz:

Multi media stories (noun).

Famlee:

Originally a space faring syndicate from the Ground-3 in-system. The definition under Hum Fed One came to mean an extended family political grouping that spent nearly their entire lives in a "Famlee" owned Centerdom.

FastFoods:

Restaurants.

Feelz:

Were defined as terraformers who worked within gravity well systems. Later came to be known as direct supporters of Famllees in the ships. Famlees and Feelz by Hum Fed Two formed cultural units.

Fringer:

A person who lived off base commodity without status. There were many types of Fringers.

Glar:

A semi intelligent creature in Gr3ian oceans. A favorite name for Centerdoms.

Growauto:

High tech very cheap food production systems. One person can eat like a king from one cubic meter of a growauto during HumFed One.

HF1:

HumFed One.

HumFed One:

Human Federation One. Loose confederation of common law from approx -150 to 1492.

HumFed Two:

Human Federation Two. Looser confederation of common law from 1492 to 2995.

Iceware:
See lizardware.

In-system:
Not in the BIG long trip between systems.

IOT:

Information over time. Timed measurement of the cultural availability of information.

Lizardware:

Also called iceware. Finite state automata in bio or machine form.

Macro atomics:

Advanced atomic energy under early HumFed One. The approximate equivalent of fission + fusion + unknown near future (possible early weak force technology).

Micro atomics:

Advanced atomic/force energy under late HumFed One. A quantum leap in power and stability over macro atomics.

Nettie:

A person that is a product of genetic programming and without a natural bio-father and/or bio-mother.

Pipe:

A regular route of commodity and cultural exchange between colonies.

Redux:

Physical violence (noun and verb).

Schools:

Camps outside of cities for active adolescents.

Screamer:
(1.) Mouth. (2.) Outrageous behavior.

Screezzies:

Fast fast food.

Script:

A common law agreement by the four homeworld space agencies allowing access to unique colonial commodities. Defunct by 1492 HF1.

Sinker:

(often in Fringer usage) A gravity well, a place where Feelz lived.

Snatches:

(often in Fringer usage) Someone who was naturally conceived in a human female. Opposite of a "Nettie". Thought to come from "natural conception".

Socioists:

Social engineers that used mythology and symbology over a long period of time instead of political/anti-political methods of pre/early Hum Fed one to rationalize social and cultural behavior.

Suspenders:

(1.) Space people spent most of their life under cryogenics. (2.) Those who consciously spent large amounts of time under cryogenics planetside.

TEU:

Technical Economic Unit. The historical base unit of commodity measurement. Pronounced "too" or "tooz".

Teefing:

See Titerfazing.

Titerfazer:

(Fringer usage) (1.) A "f*cker" (2.) In some fringe circles it meant someone who habitually used high-tech sexual toys to the point they had no interest in humans.

Titerfazing:

(Fringer usage) Sexual intercourse. Considered vulgar language. Thought to come from the phrase "tight interfacing".

Wellers:

See sinkers.

Wetware:

cyborg and biochemical programming. Also see Netties.

Wewephufar:

Dominant secular religion of early HumFed One. "We were put here for a reason". Based around lack of evolutionary history past 100,000 years on the four home worlds.

New Orn

Home world entry sequence: None. First entry came directly from Beautica (a.k.a. Beutica).

234 arrival of 3 centerdoms from Beautica.

238 Colonials split into spacers and planetaries.

256 Autofabs completely automated by distributed maintenance systems.

388 Pipe to NewSotia

404 Pipe to Beautica

979 Pipe to Briffo.

1089 Pipe to Erorran

Species Profile by HumFed Two: Derived from Beautica with at least two recessive traits at random as common at 50%. Drift due to genetic programming is maximal.

New Sotia

Home world entry sequence: Indirect Ground2 and Mentonian influence. First entry came directly from Beautica (a.k.a. Beutica).

187 Arrival of 2 Centerdoms from Beautica.

196 Approximately 20% of the colonists dwell in the cool but habitable places in a gravity well planet.

210-360 The inner planet is colonized as energy collectors. This colonization pattern is typical of "banded" systems. New Sotia like New Orn is the main cultural export of the Ground2 homeworld Sotia and Ornato cultures.

290 Arriving Mentonian clans Mavllee (a.k.a. Mvle) declare Afar as politically autonomous from New Sotia cultural nationals. They can do this under the Script. This does cause unrest and bad feeling between the two groups, but is easily corrected by Mvle efforts. They rapidly establish cryo system production. This tends to soften some of the cultural alienation. Next the Sotian cultural nationals are effected by social engineering from various sources in HumFed One.

326 Afar becomes a research center for psycho-space studies.

360 The run between Beautica and New Sotia is called the Regular Pipe.

388 Pipe to NewOrn

920 Pipe to Ellore

1017 Pipe to Briffo.

Species Profile by HumFed Two: Identical to Beautica but dark skin being more common along with golden blond hair (+16%).

StarsEnd1

Home world entry sequence (none) entry from Beautica (Beautica).

129 Centerdom refurbished and based in Beautica arrives at StarsEnd system. This is an indirect effort of the entire HumFed and directly based in Beautica.

This system has no planets. There is enough space flotsam and junk for a group of colonists to survive. StarsEnd1 is the ultimate energy collector system. It is a trinary star system with a blue giant and two orange main sequence stars.

136 First colonization of tertiary K6 star based system. Water collector facilities are established to supply main colony point in giant collector point.

150 Colloc collection system established at StarsEnd Blue and is continually enhanced until 680 where production is stabilized. Autofabs were constructed for the 600 years which collected and stored enormous amounts of macro atomic power from the Blue. The energy production was over a million times that of an average life supporting star.

185 Strict enforcement of the Script as energy is parceled out to each subscribing planetary culture.

680 Pipe to Beautica

Species Profile by HumFed Two: Identical to Beautica

Tillican

Home world entry sequence Ground1 then Menton (later Famlee influence) The initial probe is the combined effort of Ground1 and Menton. -122 is the launch time from the Mentonian home system.

-91 Arrival at Tillican of the first centerdom. A single red main sequence with 4 planetoids greets the first wave colonists. The second star in the system is a weak red dwarf with a pure cryogenic system of planetoids. The primary is colonized with primary operations on the fourth planetoid. Later known as Lican Neek.

-68 Colonization of the secondary commences. Principal activity is harvesting heavy elements.

920 Pipe to Ellore. The exchange of primal atomic theory in physics creates theoretical platform for micro atomics prototype.

978 Pipe to Briffo

1002 Prototype of self contained micro atomics.

1082 Proliferation of micro atomics to Briffo.

Species Profile by HumFed Two: Dark skin with average body build. Mentonian face characteristics are recessive at about 10%. Drift from genetic programming is moderate.

Base General Time Line: First Human Federation

- 172 First Out colonization preparation efforts for Firsts system.
- 162 Ground-3 launches colonization ship to Wydeon-3.
- 150 Ground-3 launches colonizing effort to Beautica.
- 122 Arrival of First Outers at Firsts system.
- 112 Arrival of Ground-3 Centerdom at Wydeon-3.
- 100 Regular travel between four human homeworlds; old cultures and nation-states reassert their presence. About 75% of an interstellar trip could be spent in cryogenics. Centerdoms could make it up to .5 speed of light.

Base macro atomic technology.

- 92 Departure for Irif-1 from Ground-3.
- 70 First wave colonists arrive at Beautica from home world systems.
- 50 Ground-3 Famlee ship arrives at Brun-2.
- 45 First known large scale space warfare in Firsts system, became known as the AutoFab War.
- 44 Energy collector at Brun-2 drives 2 TEUs worth of commodities.
- 42 Ground-3 Famlees arrive at Irif1.
- 38 Ground-3 Famlees arrive at Ellore.
- 26 Ground-3 Famlees arrive at Errorran by improved Centerdom technology.
- 25 Universal use of high temperature superconductivity.
- 20 Ground-1 arrives at Beautica.
- 2 Meeting of four Centerdoms near common home world sector. Start of a common Federation colonization plan derived from the various home world in-system space organizations.
- 75 Script agreement under Hum Fed One.
- 202 Biosphere Protection Common under Hum Fed One.
- 202 Open combinatorial myth making Common under Hum Fed One.
- 245 Touchy in Errorran system becomes a center of art and drama.
- 360 Small scale parity of in-system and homeworld economies (measured by TEUs and IOTs).
- 400 In-system economy of Ground-3 99% developed.
- 428 Project Light Eyes in Ellore colonial system.

550 Mass availability of cryogenics.
582 Death Seed affair in Briffo colonial system.
700 Pipes emerge as travel/cultural constants for HumFed One colonies.
770 Biodetection for all in-system entry ports.
800 Prevalence of Demographic Functionalism
900 Cryogenic entertainment develops.
1082 Micro atomics proliferate from Tillican colonial system.
1130 Conduits of Pipes emerge, become basis for Hum Fed Two Diaspora.
1404 Council in Erroran lays basis for Hum Fed Two.
1492 Establishment of all colonial space federation or Human Federation

We-Made-It (a.k.a. Onafix)

Home world entry sequence: Ground2, then Menton and Ground1.

-163 Automata returns data from Onafix to Ground2 in-system space culture (Gnat Space Admin).

-112 Launch of "upgraded" Centerdom from Ground2 from Gnat Space Admin.

-79 Arrival of lone centerdom of new class in We-Made-It system. The star-ship suffered a number of near fatal failures that were disparately corrected during the trip. This is where the system gets its name. The captain of the Centerdom was named Geagil Sotial which also became the name of the primary planet in this system.

The primary planet is the first one and the closest one to the star. It was settled and becomes the inner system population center. The highest form of indogenous life are cold blooded mammaloids.

There are two "brown hole" gas giants (near stars) in the system and a number of cryogenic planets in the outer system.

-73 Economic production is established as 820 plus colonists settle a ice/ water production planetoid later to be named Watsot. In addition to water a significant amount of metallics are discovered and later auto-mined and auto-fabed.

1105 more colonists arrive at the now comfortable base at Geagil Ess. Both colonies are considered an extension of Gnat Space Admin.

-50 Message arrives from Menton informing the system that a Centerdom will arrive from that home world in-system.

-48 There is a fully expanded in-system economy, meaning that the system is entirely self sustaining at this tech level. Auto-fabs are established in non-gravity well planetoids. 60% of Geagil Ess is

declared a biosphere, not to be colonized.

102 Arrival of Ground1 colonization effort "Castaway", an experiment in socio-psychopathology executed in concert with Long Mist Name and Roundface cultures from Menton (see Menton home world histories). It could be considered a police state or benign dictatorship that the Castaways endured by League Cosmos social standards (see the Court Dense or Cordance incident in home world histories). Castaway is a sole planetoid in the outer We-Made-It system that deserves its own interesting history.

798 Pipe to Firsts system.

802 Pipe to Fist system.

1096 Pipe to Irif1.

Species Profile by HumFed Two: Small but muscular build with dark brown or reddish brown hair. Recessive traits are dark black skin and red hair (16%).

The drift from genetic programming is moderate.

Beautica (a.k.a. Beautica)

Home world entry sequence: Ground3 then Gorund1 and Menton.

-70 First wave colonists arrive from Ground3. They are a direct result of the (at that time) the combined council of Famlees. This is a unique occurrence in HumFed One history. Shortly after this all subsequent space colonization was broken down into smaller decentralized units of Famlee operated ships (from Ground3).

-26 As with the other few rare nicely inhabitable systems (and Beautica was one of the absolute best, until the time of League Cosmos) it "sinc"ed more energy than it produced (i.e. was a gravity well, oh but it is a good one). Famlees build stations around the 3rd planet (W-aster-won) as a base for in-system based exploration of deeper space.

-20 Arrival of major colonization effort from Ground 1 (their largest to date). This was a direct effort of the Sotia, Orn and Speortia space platform.

19 Arrival of 3 centerdoms from a coalition of seven clans on Menton (Mavlee Trees, Tearon Name, Depths, Court is Dense, Long Mist Name, Not So Loud Now). This is a direct result of the Script.

101 Separate and new Centerdoms are constructed at what is now a complete Speortia Space Complex. The Beautica system has accrued a population from the homeworlds greater than any other system of that time. Socioists later designated Beautica to be capitol of gravity well colonization.

133 Three centerdoms launched to NewOrn system. The crew and the project is supported by Orn culturalists in the Beautica system.

136 Two Centerdoms launched to NewSotia system. This project is

supported by Sotia culturalists in the Beautica system.

388 Regular Pipe to NewSotia.

404 Regular Pipe to NewOrn.

Species Profile by HumFed Two: All skin colors, copious body hair with darker grays as common hair color. All combined recessive sub-species characteristics running at 16% per each person. Drift due to genetic programming is moderate.

Wydeon-3

Home world entry sequence: Ground3, later Ground1.

This is the first of the Diaspora worlds (as they are known in the League Cosmos era).

-162 Launch from Ground3 of 2 Centerdoms.

-158 One Centerdom is completely lost. One hundred twenty years later the cause was discovered due to a human failure in the crew. This is the only known instance of a Centerdom loss prior to the formation of the first federation.

-102 Arrival of surviving Centerdom at Wydeon3 system. Entry is made in the secondary system. An orange main sequence star with 3 planets and numerous planetoids circling the outer two systems are charted as the ships enters the system. The 2nd planet in the secondary system has life forms but is a considerable gravity well with a dense atmosphere. Colonization centers around the first planet. An energy collector system is established at the colony base now called Sync-sink.

-98 There are two small moonlets (488 and 259 radii respectively) that became technical coordination centers for energy collection on Sync-sink. They are named the Syncettes.

102 Arrival of second wave colonists from Ground1. The project had the tacit blessing of HumFed One. They work in the system on a new base known as Bumps. This colony reported directly (at light speed communications) to Ground1 and Menton (actually Mentonians based on Ground1). The Bumps functioned as a in-system security experimentation base.

783 Pipe to Eroran.

906 Pipe to Starsend1 .

Species Profile by HumFed Two: Dark skin with recessive black skin at 6%. Bearded females are recessive at 3%. Body build is above average. Drift from genetic programming is moderate.

The History of the First Human Space Federation

The discovery of the by the four homeworlds existence and the subsequent colonization of sub-space is the dominant activity leading

up to and and going beyond the First Federation. The Second Federation is then same type of organization but on a greater scale with the home worlds no longer the dominant cultural factor.

Because this is a history of sub space, the distances between the stars in 3 dimensions is important. The distances are rounded off to the nearest tenth of a light year.

The coordinates of the star systems from an arbitrary center (x coord, y coord, z coord):

distances in subspace

Ground 1 (1.2, 3.0, 5.6) dist to Ground2 = 8.8 llyrs
 dist to Ground3 = 12.0 llyrs
 dist to Menton = 16.5 llyrs

Ground 2 (5.1, 8.6, 11.2) dist to Ground3 = 13.5 llyrs
 dist to Menton = 20.9 llyrs

Ground 3 (11.2, -3.1, 8.2) dist to Menton = 22.0 llyrs

Menton (-6.3, 5.8, -6.2)

Other star systems that are prominent in First Federation history:

Beautica (21.3, -6.0, -19.6)

The gem of the universe. The premium of all meteorological conditions on planets. This system has three planets and an asteroid belt.

Ellore (-10.6, 15.0, 7.9)

K2 sun, seven planets. Cold but inhabitable planet with non intelligent indigenous lifeforms, 2 gas giants. An extremely valuable system.

Onafix (6.0, 1.2, 27.9)

A system with 7 planets, K6 sun, a "brown hole" system, very rich in hydro carbons.

Fist (21.3, 0.5, 11.2)

Red dwarf sun with cryogenic planetoids, Dancer Port was constructed here by Famlees (see Ground 3 traditions).

Firsts (7.3, 7.8, 10.2)

A K8 sun with 2 planets and 13 moons. The planets are massive with very rich moons (sic). The system has a solitary while dwarf second sun.

Stars End (6.5, -31.1, 0.1)

A trinary star system and an enormous potential power collector system. It loses some importance in the Second Federation.

Brun-2 (11.6, 7.7, -14.5)

A K2 sun with 5 planets, all mercurial and good for "rock hounds" and a M5 sun with a number of gas giants with copious moons. A cold system rich in "reductive" commodities.

Wydeon-3 (1.6, -14.8, 5.6)

Relatively significant to Federations but on the fringes of League Cosmos due to the shape of hyperspace.

Tillican (-6.4, -9.2, 11.3)

A M1 sun, an interesting planetoid that orbits a heavy atmosphere cold planet and a red dwarf sun with 3 cryogenic planets.

Briffo (-3.4, -8.9, -14.2)

K6 sun with a significant ice planet plus two odd planets in the outer system. A second sun a blue subgiant warms the outer system.

Eroran (1.3, -25.7, -2.3)

An M1 with 3 cold planets, one rich gas giant with moons. Another system rich with "reductive" commodities.

Irif-1 (6.7, 20.4, 4.5)

An F5 sun with two planets bombarded by intense radiation. A valuable energy collector system. Also a M1 sun with three planets a numerous moons rich in reductive commodities.

New Orn (-23.2, -17.9, -28.6) (late First Federation)

A G0 star system with four planets and an asteroid system. Indigenous nonintelligent lifeforms. A warm and beautiful planet.

New Sotia (-5.8, -15.6, -7.7) (late First Federation)

A K7 star system with four planets and many moons. A cool but habitable world with indigenous nonintelligent lifeforms. A very rich system.

-337 hf1 through 0 hf1 (A general history)

The innermost planet in the Ground 1 system has indigenous lifeforms of hot moss. It wasn't as useful to the emerging solar economy as it was later. The solar based economy was based more on the third and then on the fourth planet of the Ground 1 system- a gas giant to be harvested that did not have many moons. It is easy to understand why the Gr1ians were motivated to build the early interstellar craft.

Ground 2 had a similar in system deficiency. The first planet was large hot and made up of inert gasses for the atmosphere. It was not useful at this time. The second planet was similar, but mineable at premium cost in the early period. Fortunately the Ground 2 system has a lot of free debris to be collected.

On Ground 2 the radio signals were detected by the Sotia, Orn and Speortia space platform and a strong broadcast is beamed back towards Ground 1. (circa -367). By -358 Ground 1 has decoded the message and the basic language of both worlds is understood. The social effect of these events are profound on both worlds. By -340 the histories have has been exchanged along with basic ideas of philosophy, politics and religion.

In the Ground3 system a number of families continue to organize five space traveling syndicates. Their colonization of the two moons around Ground 3 continues successfully. They divide the moons into a number family associated territories: Hal Dimspeed, Mel Dimspeed, Relo Dimspeed, For Dimspeed, Pem Dimspeed. The government on the two moons (as controlled by the families) is roughly democratic (and in harmony with associated governments on the home planet). Paytox heads a different familial group that is concerned with the economic development of the Gr3ian solar system itself. In -349 hf1 there are automated probes scouring the system supported now by the Paytox Station and two smaller stations set in deep solar space.

The Paytox group is able to gather resources for a large scale deep space network (by the standards of the time) and the inevitable happens. Signals are picked up from Ground 1 and the course of history is forever changed for the Gr3ian civilization. There is a great planetary debate on "what to do". The messages are full of references to Ground 2 (Paytox Family Alliance computers rapidly translate the language, rapidly meaning days, not hours or even minutes like current League computers can). A planetary debate rages on what to do. Arm and not talk. Arm and talk. Do not arm and do not talk. Do not arm and talk.

The Gr3ians fear the more "warlike" and "political" history of both Ground 2 and Ground 1. The social scientists of Ground 3 argue that their histories are not that different, considering that each of these worlds does not have the culture of seafaring that we do. "and we have had our conflicts". In the end a strong signal is sent to Ground 1. The seemingly common origin of the three civilizations made the answer more or less inevitable. There are some planetary and system weapons built and operated by the Common Command. These are kept top secret and nothing is mentioned about them in any broadcasts (by -341).

The signals from Ground 3 are detected by Ground 1 long before the intentional HELLO arrives in -336. And there is not question about

what to tell Ground 2 command. They will pick up the signals soon enough. The planetary space organizations of Gr1 and Gr2 set a common goal of building a subspace cruiser (messages sent and received by both parties by -328). There is a debate on technology. Considerable economic resources of both systems go into this project.

Even before signals are received from Ground 3, both the SubNational Space Organization on Ground 1 and 6 nation Space Administration on Ground 2 had plans for deep solar space radio transceivers. When Ground 3 is discovered the construction of the radio transceivers could qualify as a religion.

And in fact a religion does come into being spread across the homeworlds. Wewephufar (Wee wee pooh far"). We were put here for a reason. For Gr1 and Gr2 there exists a strong monotheist orientation. On Ground 1 the monotheism science or that a single higher entity exists because of the consistency of physics and materialism. On Ground 2 the deity is not quite as mathematical as perceived on Ground 1, the almighty exists in your dreams and that is the proof. Both of these religions adopt a modified version of Wewephufar.

"How many other relatives of human kind are out there with a natural history one hundred thousand years old?" In some ways the endeavor to build the MegaTransceivers helped decrease the growth of in star system economies in both the Ground 1 and the Ground 2 system. In -315 the MegaTransceiver is complete in the Ground 1 system (near the orbit of Ground-1.3, the fourth planet in the system). Ground 2 has the MegaTransceiver built by -313.

All three of the active homeworlds have new high power visual telescopes in in-system star orbit. Deep space is scanned for larger planets. They are discovered in some of the closer systems. The first record of a planet in another star system is Wydeon-3. It is ironic that 2000 years later under League Cosmos technology when hyperdrive for space travel is common, that Wydeon-3 is little more than an outpost due to its distance in hyperspace.

There is a new political movement on Ground 1. Its called "delete the planet". The focus was simply this. All effects of the industrial revolution are moved into space. This movement is at least partially successful. By -315 there is a significant amount of space industry. The move to space is officially endorsed by 10 of the 14 Council SubNationalities on Ground 1. Ground 2 follows suit to a lesser extent, possibly due to a carefully managed environment. By -312 Nilla, Ortia, Orn, Speortia, Sotia and Niprivtineena have all made formal agreements banning atomics from the planet. Ground3 does not have this problem. By -300 they have nearly ALL their industrial economy off either the planets or the two moons.

On -309.023.13.34 hf1 signals are discovered from a weak broadcast that originates from the Menton system (this took place in the controlling complex for the Ground 1 MegaTransceiver). Pictures were decoded along with the language. The Mentonians were an enigma to the other 3 human homeworlds (Ground 2 learned in -300, Ground 3 in -297). Menton was nothing like either of the other three homeworlds. Menton watching was a passion for many homeworld scientists.

It didn't take long before the social scientists of the soon to be First Human Federation to discover that the Mentonians originated from

the same time period as the other three homeworlds (the development of social science on Menton was superior to that of the other three homeworlds, so they were quite aware of their own history, and they talked about it).

A strong signal is sent to Menton from Ground 1 in -296 hf1. It is coded in their own language and informs them of the existence of the other three human homeworlds. Strangely the Mentonians never reply. An avid search continues for the fifth, sixth and ... next human homeworld. Alas none is ever found by the Human Federations.

Nilla and Niprivtineena still strongly identify themselves as nation states on the Ground 2 homeworld. By -291 there is a strong independent space culture independent of any planetary economic ties. The concept of "spacers" and "flatlanders" takes on true meaning. The same can be said for Ground 1 in -285. Ground 3 had an independent space culture before contact with the other two homeworlds.

Nilla and Niprivtineena became involved in a conflict, more due to mythological and religious issues than any other reason. The spacers on their own initiative instituted "Klatu". A message was sent to all parties in conflict that they could argue all they wished but warfare would not be tolerated. The spacers could back it up with powerful technology developed after "Planet Deletion". "Klatu" was delivered on -287.096.0800, and is significant in League history. Obviously Klatu shook things up a bit on Ground 2 and drew concern from Ground 1 and even more concern from Ground 3.

Star system technologies from -337 hf1 through 0 hf1

League social scientists often refer to a measurement called "Technological Economic Unit" or a "TEU". It was measured as the entire population-to-commodity output of Ground 3 in -350. An implied subfunction of TEUs is the total information available to the populace given a certain time period. This subfunction is usually given in characters or picture equivalent of characters. This is was often referred to as Information Over Time or IOT. (The terms are pronounced "two" and "eye ott".) Given an IOT there exists a minimal and maximal TEU and visa versa.

Ground 3 has a very well developed solar economy running at about 15 TEU by -300. Ground 1 and Ground 2 are running at about 5 TEU by -300 hf1. Menton is at about 0.1 TEU by -300.

The Delete the Planet movement did have the side effect in that the first usable atomic fusion systems were produced, first on Ground 1 and independently in the other two home systems. Thus there was little motivation for the space coalitions to keep it a secret long.

Ground 1 and Ground 2 in system coalitions (Council SubNationalities) are constructing a prototype fusion driven sub space cruiser in the year -290. A robotic driven prototype is launched from the Ground 2 system in -282. It arrives at Ground 1 by the year -256. As it travels through subspace feedback is sent to all three home systems in realtime.

Three early Centurdoms (subspace slow boats) are in route to the Ground 2 systems in -270 from Ground 1. Likewise Ground 2 has four early Centurdoms in route to Ground 1 and three to Ground 3 (all

depart by -268). A single Ground 3 slow boat is in route to Ground 2 by -265 and another to Ground 1 by -261. Finally in -258 after agreement is reached in the early -270s Ground 3 and Ground 1 launch a single centerdom each to Menton.

Incremental innovation of early cryogenics made centerdom travel possible. This activity was carried out by number of homeworld science organizations. They were primitive and sometimes failed, but could keep a person in cryo up to 50% of the voyage.

Speedwise these early ships could get up to about 30% of light speed. By -100 the cryogenics had improved. Up to 75% of the voyage could be spent in cryo. And the centerdoms could reach up to 50% of light speed. The range and efficiency of the centerdoms continued to improve making the foundation of the First Human Federation possible by year 0.

Other technologies were accelerated by the space faring culture in all three home systems. Computer technology reached molecular level control. "pseudo artificial intelligence" (as it is called by present day League scientists) is developed. Energy collection systems provided the initial source of in system industrial automation. These energy sources were quickly supplemented by fusion reactors. These new technologies made possible a quantum leap in technologies.

The strange case of the Mentonians; -350 hf1 to -242 hf1

The Mentonians are more concerned with the human condition and not nearly as concerned with technological progress, though they are not opposed to it. Much of their leisure time is spent on teaching and learning various philosophies and psychologies. Cross Guilds of Social Repository have structured their society such that any organic group that has daily control over a persons life is no more than 150 people and no less than 30 people. They deliberately engineer bureaucracy and individual despotism out of the social structure.

Menton had a fraction of the economic capability in the year -328 but their social contours were quite successful. There is technology going on. Some of the clans work with physics and rocketry is common prior to any contact with other homeworlds. These tasks are performed by a small but consistent group of technical engineers. The main purpose is astronomical observation.

The message sent from ground 1 is received in 279. The meaning is understood and echoes thorough the scientific group that participated in radio astronomy. And then each clan discovers that there are human speakers in the heavens. A formal (by Mentonian standards) space organization is formed by the 22 clans. Each clan gains an aspect of the program. A dish is put into orbit and the other three homeworlds are listened to. This has a strange cooperative effect that unifies Menton as a planetary body. They also decided to protect themselves. Their scientists were skilled in biology (they had a very biologically interesting planet). They developed a number of bio weapons that be used against invaders but would not harm their own people. This was a startling revelation to the other home worlders when they finally found out about it.

A centerdom enters the Menton system in -219. It is immediately obvious to the pilots what a rich system Menton is. It is about

twenty years before the second centerdom arrives from Ground 3. As early as -225 a series of greeting messages were sent to Menton. The Mentonians finally send a message back. A ridiculous caricature of a robot standing next to a completely naked man and woman. They speak in unison "our planet has no shoes".

As mentioned before the clans are very capable at psychology and are brilliant negotiators. A message is sent back to the MegaTransceiver in the Ground 1 system in -203 "they are just a bit shy but they are here". "They say their goal is to form a human space federation".

The two moons that circle then Menton homeworld were not colonized before the arrival of the centerdom. In -216 there is a colony of Ground 2ians and Mentonians on the moons. They are called the 23rd clan. Menton.3.1 (the second moon) is the planned rendezvous point between Ground 3 and the Mentonians. The colonization of the second moon commences in -198.

The "hope of humanity" clans are organized in the outer systems as the 24th and the 25th clans. In -187 both centerdoms depart for Ground 1 and 3 with mostly Mentonians as passengers. Production in the Menton home system reaches 10 TEU by -176. Ten centerdoms are launched in -172. The dynamic force of the First Human Federation has taken to the stars.

Automata in deep space

Automata from a number of home systems begin their slow journey in the year -251 to likely near stars for analysis. These probes arrive at Firsts, Brun-2 and Wydeon-3 from Ground 1. Eight probes are launched from Ground 2. These probes reach Fist, Firsts and Irif 1. Two probes are sent to Wydeon 3 from Ground 3 in -236.

Important Subspace
distances in light years:

	Gr 1	Gr 2	Gr 3	Menton
Firsts	9.02	18.15	11.74	5.7
brun-2	23.98	26.52	25.13	5.3
Wydeon 3	17.8	13.16	15.35	6.3
Fist	21.41	18.11	20.43	6.7
Irif 1	18.28	13.6	24.88	9.4

Information returns to Ground 1 about -220 from Firsts, -192 from Brun 2 and -208.28 from Wydeon 3. Preparations are made for the first out system colonization efforts to the three systems and are complete in -172 hf1. Ground 1 and 2 systems coordinate the effort to colonize Firsts, a planet with a cool temperature but ample greenhouse effect. It also has highly developed plant like life forms (the Massive Vines). On this world also exist partial exoskeleton (insectoid) crawly things.

A second wave of industrial oriented colonials are launched to Firsts from Ground 1 in -168, Ground 2 in -170 and in -169 from Ground 3. New automated probes are also returning data on Briffo, Onafix, Ellore and Tillican. Ground 3 launches a colonization effort to

Wydeon 3 in -162.

In -158 probes return data on Beautica (what a system!) and Irif 1. A colonial centerdom is launched from Menton to Ellore. Coordinated efforts follow from Ground 3 in -150. In route to Beautica are 3 centerdoms from Ground 1 and Ground 2, 2 from Ground 3 and 1 from Menton. The first wave of these ships is due to arrive in -70. By now it is apparent that guidelines for space colonization need to come from the home systems.

There is a consensus that consistent contact is needed between emerging colonies and the homeworld systems. There is no mention of a Federation police force at any time. What is discussed is the assigned power of a delegation to a local group by homeworld designation.

A colonizing centerdom varied in tonnage. They ranged from 4000 to 12000 tons. Typical is about 9000 tons (hull displacement). The ship was powered by a network of fusion converter systems. About 2000 persons went on the trip. At any one particular time 60% of these people were in cryogenics. This very simple fact literally helped transform the human species. The subconscious mind was not asleep in cryogenics. The social history of the next 2800 years for the human species, is the history of the active subconscious.

On any given centerdom there was enough automata, raw material converters and associated equipment to generate 0.1 TEU in about a year and depending on the richness of the system, 1 TEU in 2 years, 5 TEU in ten years (figures based in year -100).

Probes return data on New Orn, New Sotia, Eroran and Stars End in -30. Colonization efforts do not begin until +130 hf1 from the Beautica system.

The formation of the First Human Federation

In the first one hundred years before the first Human Federation, many of the old nation states and cultures prior to space society began to reassert the presense. This happened for a number of reasons. As large numbers of planetary settlers mingled, their homeworld origins were accentuated (at least temporarily). Even during League Cosmos times in the city of Corp Corp 2 on Beautica there exist archaic divisions like the "councilarium of Gobania and Olatia" (see history of Ground 1) and there is another area in the same complex associated to the six homeworld nations on Ground 2.

Ancien regimes also assert themselves because centerdoms can be constructed by a relatively small planetary group by -100. The first colonists tended to come solely from (via) the spacers. Second and third wave colonists came from planetary groupings.

Regular travel exists between the homeworlds by -100. Agreements are made but some problems do appear when prior agreements are not clear. This is especially true with the entrance of new colonials in a system that has been already settled by first in groups. Often there is a debate concerning the global rights of the first group versus the liabilities of the new wavers. An instance of this argument first takes place in the Firsts system in -45 that erupts a known space battle. This battle took place between in system ships, not

centerdoms.

There were other instances of conflict during the pre First Human Federation colonization period. In many cases they were motivated by conflict over autofabs. In other cases they were completely irrationally motivated.

The social scientists from Menton were instrumental in completing the First Human Federation. Four centerdoms met in a common sector (between the home star systems) and reach a grand consensus for the guidelines that made up the Federation in the year -2. For the next two years the future of space colonization was contoured. A common Federation economic plan was forged from the permanent space organizations of the Homeworlds.

Lu Soldrivia (from Menton Tearowname), Carbee Kayo (from Ornato) and Slee Tren of Paytox Complex discuss the possibilities for a common symbollogy found in the artifacts of the paleohistory of the four homeworlds.

"A man naked holds three circles or balls, They are falling off his hand onto the earth (sic). The smallest first, then the middle one and then the largest-- from Ground 3 key island navigations circa -21,000. A naked man casts three marbles at a hole in the earth-- from a tool carving on Menton, circa -25,000. A dish that is subdivided in three dishes (three circles within a circle-- from an agricultural area of the Grlian megacontinent circa -34,000 hf1."

During the construction of the First Human Federation these and similar topics were a constant topic of conversation. A new language common to the Federation is developed. It is a verbalized version of the metalanguage used by the comm machines in the Federation. A humanized extension to a machine language.

The Famlees from Ground-3 remained a powerful external force in star system economies (as did the clans from Menton in the structuring of the Federation). By the year zero the Famlees from Ground-3 have over 35 centerdoms running to Ground 1 and 2, Menton and then by +55 hf1 to Brun-2, Ellore, Beautica, First, Eroran, and Irif. The Dimspeed Famlee is the oldest in this trade, but later the Planstods, Genships and Neza Famlees follow in their footsteps. Some of these names are prominent in League Cosmos structure 2800 years later.

A family ran centerdom was simply that. The mother and father were head of th family and all children and relatives of the extended family were the crew of the ship. The ship belonged to the family and they spent their life on it. This tradition goes back directly to the "boat families" in Ground-3 planetary history.