

Focus

The yinrih's home star, as well as the planets and other bodies that orbit it

- [The Inner Planets of Focus \(WIP\)](#)
- [The Orbit of Yih and Its Effects on Yinrih Biology and Culture](#)
- [The Weremoot and Wifemoot](#)
- [Allied Worlds Currency](#)
- [Sweetwater](#)
- [An Updated Map of Focus](#)
- [Stats for Focus and Yih](#)
- [The Holy World of Hearthside](#)
- [Baby Steps toward a Map of Yih](#)
- [Working on Yih some more](#)
- [More Yih Ring Attempts](#)
- [The Outlands](#)
- [Various Allied Worlds-related Images](#)
- [Getting Closer to a Mapping Yih](#)
- [A Much Better Geopolitical Map of Focus](#)
- [Yih Map First Attempt](#)
- [Thoughts on Newhome](#)
- [Greatmouth](#)
- [On Sweetwater's raft islands](#)
- [Another rough map of Damsback](#)
- [32x32 pixel Yih](#)
- [Sketching the rest of Focus](#)
- [Orbital Colonies and Wayfarers' Haven](#)
- [An idea for Newhome](#)
- [Quick sketch of Wayfarers' Haven](#)
- [An idea for Yih's Ring](#)
- [More ring stuff](#)

- [The origin of caerulium](#)
- [Yih Ice Caps](#)
- [Equirectangular map of Yih](#)
- [Welkinstead's Gravity](#)
- [A picture of Welkinstead](#)
- [Making the Galaxy Less Lonely](#)
- [The Outer Belt](#)
- [Golden Hour City](#)

The Inner Planets of Focus (WIP)

Image

I'm trying to figure out LibreOffice Draw.

This is a draft of the inner planets of Focus. I didn't originally intend it to be this way, but I'm kind of liking the theme of the planets being based on outdated theories about our own inner planets, namely that Mercury was tidally locked and Venus was an ocean world. For the most part I'm trying to use an "English" translation convention for the names.

I'm not sure how the various states will be distributed among the planets, and whether each planet will be under a single government or whether separate states claim parts of a planet. In any case, with the exception of Hearthside the whole inner solar system is under the Allied Worlds, which is a UN- or EU-like organization.

I mentioned the machine cult in one of my stories. Yeah it's a carbon copy of the Adeptus Mechanicus. I'm not the most creative worldbuilder out there.

I'll have to do a write up on the "Reverse Inquisition" at some point, but the TL;DR is that it was founded for the purpose of holding corrupt clergy accountable. It started out as an internal renewal movement making sure that clerics were upholding their vows, that they were worthy of the respect their office was supposed to grant them. But it devolves into a anticlerical secularist movement later on.

The Orbit of Yih and Its Effects on Yinrih Biology and Culture

Yih is the name of the yinrih homeworld. *Yih* is one of only two instances of Commonthroat loanwords in English, the other being the word *yinrih*. These words are better thought of as onomatopoeia mimicking yinrih speech sounds as humans and yinrih cannot actually utter one another's languages. Its Commonthroat pronunciation is [yip, short high strong whine, huff]. The word means "ground" or "earth", naturally enough.

The following figures ignore the more complex aspects of orbital mechanics. I've assumed a circular rather than elliptical orbit with no variation in speed due to perihelion and aphelion, nor have I accounted for solar vs sidereal days and years.

Yih is about 1.3 astronomical units away from Focus. It has an orbital period of about 1.4 Earth years, and a rotation period of about 24.38 Earth hours. There are exactly 528 Yih-days per Yih-year. Yih has an axial tilt of exactly 30 degrees, meaning that the planet's surface area is evenly divided among tropics, mid-latitudes, and polar regions.

Yih has a ring, meaning winter days are darker and colder (although not by as much as you might think) and summer nights are brighter. "Chasing the end of the ring" is a proverb meaning to go on a fool's errand.

As stated in another post, yinrih and the other creatures in their clade have a far broader visible spectrum than humans, meaning you don't see niches divided into diurnal and nocturnal like you do on Earth. Yinrih don't sleep per se. They have an active period that lasts about 11 days and a period of torpor that lasts 1 day, with the cycle taking a total of 12 days. They don't actually lose consciousness fully during torpor. It's more like how some birds and dolphins sleep, where only parts of the brain are inactive. They experience dulled sensation and a feeling of detachment, but are still somewhat aware. It's like the anesthesia they give you for cataract surgery. Yinrih may not even be capable of losing consciousness at all without dying, and may find the fact that humans spend 30% of our already pitifully short lives asleep as existentially disturbing.

Since Yih doesn't have a moon, there are no months. Since the yinrih progressed technologically so rapidly after gaining sapience (achieving spaceflight a mere 5 Earth millennia after becoming rational) they don't have a week (which was originally based on the seven planets as reckoned in ancient times on Earth). Whether they have intermediate time division between day and year is to be determined, although they probably do.

The torpor cycles of individual yinrih aren't in sync, so there's no stretch of time where everyone is inactive light nighttime on Earth. However, within individual families in the very early days of yinrih history, and today among the Amish-like Atavists, the dams and pups would go into torpor together, while the sires would stagger their torpor cycles so that some can rest while others keep watch.

Clerics are not allowed to beget young, and are expected to spend their torpor period in the sanctuary near the star hearth (liturgical nuclear fusion reactor) in the event that it needs attention. In smaller, more traditional communities and *especially* aboard orbital colonies, this duty is more than ceremonial. The star hearth may be the only power source for the community.

Particularly traditionally-minded clerics will spend at least part of their torpor period repeating the following prayer in time with their breathing:

(breathe in) *May my soul be a mirror*

(breathe out) *reflecting the Uncreated Light*

Clerics hold short liturgies three times a day during their own active period, at sunrise, noon, and sunset. The faithful are expected to assist at at least one liturgy during their own 11 day active period. The liturgies aren't particularly long--an hour at most, and usually more like 30 minutes.

There are five principle high holy days, one on each of the solstices and equinoxes, and one commemorating the dawn of sapience or the Kindling of the Fire of Understanding, which they count from the first evidence of written language. (They *evolve* a written language rather than inventing writing much later, so it's a fair assumption to equate the two). Both the daily liturgies and yearly holy days are supposed to be reckoned according to the local planetary orbit and rotation unless the timings deviate from those on Yih to such a degree that they become a burden, in which case the Yih calendar is followed. Orbital colonies follow the calendar of their parent planet. Moons may have a local calendar if it isn't too far off the norm, but often follow the primary planet's calendar like orbital colonies do. The exceptions to this local-first approach are the Feast of the Fire of Understanding and, after meeting Humans, the Feast of First Meeting. The Feast of the Fire of Understanding is celebrated at the same time everywhere according to the Yih calendar, and First Meeting is a movable feast set according to the Gregorian calendar.

The Weremoot and Wifemoot

The two legislative houses of Hearthside are the lower *weremoot* and the upper *wifemoot*. The original distinction was not of gender but clerical status. The wifemoot is only open to clergy while the weremoot represents the laity. However, Hearthsider women who want to get into politics usually start out as hearthkeepers, so the weremoot is where the men end up.

Members of the weremoot are elected by the populace (representation is TBD, but likely resembles the US House), and the members of the wifemoot are appointed by the high hearthkeeper.

Under most circumstances, local law supersedes planetary law, and the two moots handle interactions between smaller jurisdictions and international affairs.

The wifemoot has veto power over any legislation proposed by the weremoot. The only way the weremoot can strike down legislation proposed by the upper house is by unanimous vote, with no abstentions.

The compensation of government officials is tied to the minimum wage, meaning the only way to give yourself a raise is to increase the minimum wage. Privately owned companies are similarly restricted in how their boards are compensated.

While the weremoot is home to several political parties, members of the wifemoot swear an oath to be loyal only to the Uncreated Light. Sophonts being sophonts, informal cliques and in-groups tend to form anyway.

Hearthside's economic structure makes it difficult for international businesses to set up shop. Hearthside citizens are forbidden to hold a stake in a foreign company, and home-grown companies must either be privately owned or cooperatives. Patent and copyright duration are the lowest of any state at Focus, and fair use laws are similarly broad. This favors the use of what humans would call "open source" solutions.

Residential landlords may not own "discontiguous" plots, meaning if you plan to rent homes or apartments, you may only own a single complex or subdivision. Absenteeism is also illegal, meaning you are required to live among your tenants. Individuals who purchase a home are required to live there for an extended period of time. This is in order to discourage flipping.

Social policy tends to focus on dissuading the enabling of destructive behavior rather than punishing those who engage in the behavior themselves. For example, a drug abuser would most likely have his contraband confiscated and be required to attend recovery sessions if warranted. It

probably wouldn't even go on record unless it happened repeatedly. Drug dealers would serve time, but the most severe punishment would be meted out to those who produce or traffic drugs.

Most social policy making is left to local governments. The City of Eternal Noon is the strictest by far, with no non Claravian religious institutions permitted within its jurisdiction, but an exception is made for Terran faiths after First Contact.

Hearthside grants large swaths of territory to human settlers. Their communities are given much more autonomy over their own affairs compared to the rest of Hearthside, almost to the point of being separate countries. This is mostly due to the difference in lifespan.

Allied Worlds Currency

The standard currency of the Allied worlds is known as <rDBqqMnPLg> which means the rather prosaic "alliance currency" or "alliance token". Humans have a range of cutesy nicknames for it, including "doggo dollars" and "floof francs".

Alliance Tokens are considered a stable reserve currency similar to the US dollar. The Spacer Confederacy uses mineral notes, which are tied to a colony's supply of mined minerals, but Alliance tokens are also widely accepted, including at Wayfarers' Haven. Moonlitter, Hearthside, and Partisan Territory have their own currencies.

Physical cash is still very prevalent, at least within the Allied Worlds. All denominations are coins of various shapes. Yinrih wear a pocketed band on the right foreleg that serves the functions of a wallet. These wallets may have spring-loaded dispensers that are bored to accept a specific denomination of coin. Single coins can be ejected by placing the left paw palm-up under the dispenser and pressing a button with the inner thumb.

While missionaries aren't supposed to bring money with them, some cash ends up hiding in nooks and crannies of the luggage carried aboard the Dewfall. It doesn't amount to much monetarily, but for the brief window between First Contact and the normalizing of relations between Sol and Focus, this pocket change is worth literal billions by dint of being alien artifacts. That's how Lodestar is able to buy the materials needed to fabricate a working mech.

Sweetwater

Sweetwater is the second planet from Focus after Hearthside. The world was the next planet to be terraformed after Newhome. Early in Focus's history, the planet was bombarded by dozens of large comets, giving it a surface completely covered in ocean. Unlike Newhome, Sweetwater was founded as a sort of planet-sized gated community for the ultra rich. Think Dubai but wetter. The original scheme was to build a massive system of interconnected underwater cities. Impractical? Of course! But this is the 1% we're talking about. Unrealistic utopian nonsense is their bread and butter.

There are a few large islands, but Sweetwater's claim to fame is the massive free-floating rafts of matted vegetation that serve as mobile terrestrial ecosystems. They have no fixed topography, and undulate along with the waves. A hill one moment may be a valley the next. These exist on a much smaller scale on the waters of Yih, but various ecological processes keep them from growing to the massive scale they do on Sweetwater. They're large and firm enough to support entire forests. With such unstable foundations, these mobile islands are completely unsuitable for building most artificial structures, which makes them perfect for Atavists, Primitive Wayfarers, and others seeking to "return to monke fops" as it were. In fact, an entire genre of Robinsonade-esque stories concerns the adventures of hapless travelers washing up on the mossy beaches of these massive plant rafts.

Sweetwater society is shockingly stratified, with the upper class living in the above-mentioned underwater cities. An underclass consisting largely of the descendants of the laborers who built those underwater cities lives a nomadic lifestyle on large ships or submarines. Most make an honest living by fishing and mining, but both shipboard and submarine pirates are also common.

As expected of an ocean planet, tourism is a major source of income. Tourists generally stick to the few fixed landmasses and one or two of the more subdued vegetation rafts that serve as parks, with pleasure cruises confined to plying the safer waters between these population centers. A few of the underwater cities tolerate visitors, but the majority serve as second homes for the ultra wealthy, underwater research labs, and long term (think Yucca Mountain or the Svalbard seed vault) archival storage.

These abyssal vaults are a prime fountain of conspiracy theories in the vein of Area 51, including claims of captive ETs. The explanation changes depending on who's telling the story. More pious conspiracy theorists will say that secular governments hide evidence of other sophonts for fear that it would prove the Bright Way right. More worldly crackpots allege that the Bright Way is in control of the vaults, and that they use them for any number of nefarious purposes, usually involving amassing a secret army to reconquer the system, or keeping massive datacenters that would somehow aid them in doing the same.

Those vaults that have made themselves open to the public reveal a more mundane purpose. While they are in fact data centers, there's nothing conspiratorial about them. They're at the bottom of the ocean because that makes it trivial to cool them, and the secrecy is merely standard

data security. That being said, there are many more vaults that are much more heavily guarded and don't produce the sort of waste heat you'd expect from billions of yottaflops of compute power, so the tin foil hatters have plenty of fodder still.

A beach in the tropics of Sweetwater is the most common simulacrum used by missionaries suspended aboard womb ships, including the *Dewfall*. Stormlight hates it because it's hot and humid, which makes the black-pelted yinrih miserable.

An Updated Map of Focus

Image

The word "Focus" may refer to the star itself as well as the system as a whole. "Sol" is used in the same way to refer to humanity's home star and star system. A star with a life-bearing planet is referred to in Claravian circles as a "Hearth Star", which lead to the name "Hearthside" for the closest planet as well as the human designation for the yinrih's star, focus being the Latin word for hearth.

While some of the particulars of how borders work haven't been worked out yet, each polity claims a concentric ring on the ecliptic plane. Focus itself and its immediate environs have a status similar to Antarctica on Earth, as there are treaties preventing any party from seizing control of the star. However, Hearthside has de facto jurisdiction of the area, though nobody outside of Hearthside will admit it.

Stats for Focus and Yih

“[Khemehekis](#) wrote: 2024-07-26T22:21:00+00:00 Thanks for your answer! Maybe you can figure out how close to Focus their ancestral planet is, which will give you an idea of what color their plants would be, which could allow you to create plant species the yinrih can use for food. Fruit, vegetables, carbs, nuts, sweets, spices, herbs, drugs, all that. Ethnobotany and ethnozoo:logy are always near the top of the list when I'm developing a planet for the Leholá Galaxy.

Here are the stats for Focus and Yih that I calculated last year. None of the other bodies at Focus have any hard math behind them. I've kind of moved away from hard math worldbuilding as I've found it's really easy to paint myself into a corner.

Focus:

Mass (solar) 1.02
radius (solar) 1.01
luminosity (solar) 1.07
lifetime (solar) 0.95
temp (solar) 1.01
HZ inner (AU) 0.99
HZ outer (AU) 1.42
HZ width (AU) 0.43
HZ? 1.04
frost line (AU) 5.02

Yih:

distance from Focus (AU) 1.30
orbital period (earth years) 1.47
mass (earth) 0.90
radius (earth) 1.01
surface gravity (gees) 0.88
density (g/cm³) 4.81
escape velocity (m/s) 10557.27
Rotations per orbit 528
Earth hours per rotation 24.38973064

The Holy World of Hearthside

Image

Here's a picture of Hearthside. Most of their power comes from solar as you might expect. The City of Eternal Noon is located at the substellar point. The Eternal Hearth is the chief lighthouse for all of the Bright Way. In stead of a star hearth, the sanctuary is located under an oculus that lets in the light from Focus overhead. The light shines on a large mirror, symbolically making Focus itself the star hearth for the lighthouse.

Baby Steps toward a Map of Yih

Image

A very, very preliminary sketch of Yih. It doesn't really say anything I haven't made known already. Yih has an axial tilt of exactly 30 degrees, and a ring that casts a shadow on the subtropics and mid latitudes in the winter. Yih is slightly larger than Earth, but is a little less dense, giving at surface gravity of 0.88g.

I have to figure out how the ring affects the climate. With two years of meteorology classes under my belt, I have a passing understanding of relevant topics like the three-cell model, the interplay of wind and ocean currents, semi-permanent and seasonal (anti)cyclones, etc. With less insolation in the mid latitudes, I regret to say that Yih likely doesn't have the massive twisters I'd hope for.

Edit: I might be wrong on that. The decreased insolation only happens in *winter*. So maybe I can give Yih a tornado alley after all, or as I shall call it, the Suck Zone™.

Working on Yih some more

Image

It's been a bit since I've played with Blender. Here I'm trying some ring dimensions for Yih. The red and cyan lights are just there to demonstrate the shadow the ring casts on the planet and the planet casts on the ring.

More Yih Ring Attempts

I think I'm going to go with my "consistency over realism" strategy on this one. I'd like the shadow to fall neatly inside the mid latitudes during winter, regardless of whether that's possible or not. The Earth texture is just a placeholder.

Image

Image

The Outlands

The citizens of Partisan Territory refer to the polity as The Outlands, and to themselves as Outlanders. Moonlitter objects to this usage, since the term historically implies a larger territory than the Partisans currently control.

Various Allied Worlds-related Images

Image

Gross features of a single Alliance Token (AW currency).

Image

Here's a 3D printed version the size of a US half dollar. All AW currency is made of polymerite. Because of the exotic materials and immensely intricate anti-forgery features (which I'm too lazy to depict in the print), the few tokens of pocket change carried by the missionaries are worth billions during their first year on Earth, which comes in handy when Lodestar decides to fabricate a mech and when they build the first mass router. Ironically, with the opening of the trunk between Erickson and Wayfarers' Haven, the value of the currency drops by several orders of magnitude as Sol and Focus become more economically interconnected and polymerite ceases to be rare on Earth.

All denominations are designed to be distinguished immediately both visually and tactilely.

Image

Here's an AW military standard container like the one Tod keeps his stuff in. It's eventually going to be on casters and have more inset handles designed to be gripped by the tail, which I guess makes them "tailals".

Getting Closer to a Mapping

Yih

Image

I'm figuring out UV unwrapping in Blender. I think my next step is to draw a model with tectonic plates, then I can sketch landmasses over that.

The only set feature is that the yinrih's cradle continent, which I am calling Damsback (dam's back) in English, is taller than it is long, straddles the equator, and has a rain forest biome in the middle with a grassy steppe to the south.

A Much Better Geopolitical Map of Focus

Image

Here's a much nicer geopolitical map of Focus

Yih Map First Attempt

Image

I'm using the 12 word cartographer method introduced by Gestaltist [here](#).

The idea is that a supercontinent is starting to break up, and Damsback is the largest chunk of that former supercontinent. The River may in fact be a very narrow seaway that is forming as a result of continental drift. I want the southern part of Damsback to extend from equator to pole.

Thoughts on Newhome

“ [Visions1](#) wrote: 2025-07-27T05:49:56+00:00 What happened with Newhome's terraforming in the end? Were they able to accomplish much there? Do they have any working environment?

(I do imagine it a bit more feasible than with humans. I'm reading dune, and apparently (spoiler) [REDACTED]

[REDACTED] If it would take that long for them, only half a Yinrih lifetime, then theoretically Newhome could be done within the span of thousands of years.)

“ [lurker](#) wrote: 2025-07-26T16:05:10+00:00 The thagomizer likely started out as a farming tool used to clear brush.

What about flails and clubs, whether pawheld or tailheld?

Newhome ends up a clone of Yih without the ring. The Neoshamanists bred an anaerobic chemosynthetic microbe that feeds on abundant elements of Newhome's crust while pumping out lots of oxygen as waste. Since the microbe is anaerobic, oxygen is lethal to it, so it dies off once the atmosphere is breathable. It takes a few thousand years to go from lifeless rock to normal-looking life-bearing world, but you can get up to a breathable (though very cold) atmosphere in a few hundred years.

The denomination of Neoshamanism that perfected terraforming is known as the Lifebearers or Lifebringers. Like the Mindseekers, they sought to create sophonts rather than seek them out among the stars. Whereas the mindseekers pursued artificial intelligence, the Lifebearers wanted to create sapient life through artificial selection. While they did not achieve their goal, they did advance the studies of biology, planetology, and ecology a great deal.

Greatmouth

A space elevator on Sweetwater whose foundation is at the seabed. A giant coffer dam surrounds the base, exposing the surrounding seafloor to sunlight. The city that has grown inside the dam is possibly the (de facto) capital of the planet, or at least the capital of the wealthy benthic cities who benefit from the planet's membership in the Allied Worlds.

Regarding life on the free-floating islands, it's pretty hard. Imagine something like the Sentialese. Since the island is actually floating vegetation, there may be terra but it isn't very firma. There are no fixed artificial structures, since the land undulates along with the waves. Fire is a precious resource, with some groups not knowing how to kindle fires and having to rely on lightning strikes to start fires that are then kept lit at all costs. Pyrolatry and pyromancy (in the mundane sense of using fire for divination) are common practices. Even though these groups are largely isolated from one another, one common theme found among most of their belief systems is a pantheon of cthonic (or thalassic?) deities or demons who may do anything from "bless" people with flotsam rising up from the benthic cities or "curse" people with storms. The attitude toward these entities is usually negative, reflecting the group's founding by Misotheist Atavists. The gods are usually seen as fickle or uncaring. Fire-water juxtaposition is also a common theme, with Focus also associated with fire. Fire is usually regarded as good and water evil or indifferent.

These atavist groups are often mistreated or exploited by roving bands of pirates, with some atavists being taken as slaves.

On Sweetwater's raft islands

“[Visions1](#) wrote: 2025-07-29T12:37:27+00:00 How large is a typical island? What typically lives on it?”

The average size is about 18-25 square miles. The substrate is firm enough to permit tree growth, and it may be that the "trees" are actually growths of the vegetation mat itself. Denser root systems help stabilize the island. The firmness of the ground ranges from "water bed" on the loose end to "old wooden sailing ship" on the firmer end.

The organism(s) that make up the substrate begin life with a planktonic phase, and eventually start clumping together into mats. They may start as unicellular and become multicellular with age. Predation at various stages of their lifecycle is what keeps them from growing so large on Yih, but the creatures that feed on them were never successfully introduced to Sweetwater. The benthic cities have often tried to "control" the atavist population on the surface by reintroducing these predators, but other creatures that feed on these predators in turn are far more widespread on SW compared to Yih.

On Yih, these mats only get to be the size of large rafts, and transoceanic rafting events have often helped spread terrestrial species across the continents of the homeworld in the distant past.

Another rough map of Damsback

Image

I think I'm going to stop worrying so much about perfect landforms and just wing it until someone complains. Damsback has an Andean mountain range (damsbackbone?) to the east. The mountains are the source of the River, and it flows westward to the sea. I'm not sure how far north the landmass extends. The River is right on the equator. I'd like a tornado alley in the southern grasslands. There's an unobstructed path between the equator and the south pole, but I don't know if the jungle will do anything to the moisture coming from the sea north of the continent.

Speaking of the sea, I'm not sure if the yinrih's range extended eastward all the way to the coast. Perhaps the swampy river delta is home to several disease vectors that keep yinrih and tree dwellers from migrating to the coast. At any rate, the yinrih don't discover the ocean until after they begin populating the southern grasslands. The primordial word for ocean literally translates to "water prairie".

There is at least one other large landmass besides Damsback, but I wonder if the yinrih don't discover it until after they achieve spaceflight. "Oh wow, would you look at that, there's a whole other continent that's been there the whole time."

32x32 pixel Yih

Image

Sketching the rest of Focus

I've been stumped for the longest time trying to lay out the rest of Focus, so I decided to take the Elder Scrolls approach and think of cool-sounding names and fill in the blanks from there. Just for review, I'll go over the inner system first, although as you'll soon see, dividing the system into "inner" and "outer" planets is less applicable now.

Focus: The Hearth Star. It's not very different from Sol. I'm deviating from my English translation convention here for the sake of a pun, since *focus* means *hearth* in Latin, and a star is the focus of an elliptical orbit, as well as the focal point of a solar system.

Hearthside: The seat of religious government of the Bright Way, and the last remnant of the clergy's secular power. The reason why they're still in charge is because they ruled rather well. They set up a politico-economic system that emphasizes subsidiarity (things should be governed at the lowest level possible) and emphasized the right of individuals to own their own property, fending off both government overreach and corporate greed (you will own nothing and be happy).

Sweetwater: (formerly Waterworld). The second planet to be terraformed after Newhome. It's mostly a planet-wide ocean dotted with islands and archipelagos. It's unsurprisingly a popular tourist destination.

Yih: The cradle of the yinrih species, and the former seat of power of the Bright Way. Specifically, Newman's Dale, the southern bank of the equatorial river basin that the yinrih emerged in, is considered their holiest site. The clergy is initially expelled from the planet and exiled to Hearthside, but a treaty is later negotiated that allows them to maintain a presence in Newman's Dale.

Newhome: The first planet to be terraformed. The first group of terraformers starts a machine-worshipping cult.

Welinstead: The first of the two gas giants. It has a few moons, but it's most known for its cities floating in the upper atmosphere.

The Inner Belt: The first of the two asteroid belts. Most of the independent spacer city states can be found here, moving from asteroid to asteroid to mine the metals there like perpetual boom towns.

Wayfarers' Haven: One of the above-mentioned independent spacer city-states in the inner belt. Originally a refugee camp formed from people fleeing a Partisan border expansion, it's where the *Dewfall* departs from, and has grown into a thriving, tight-knit little town while the missionaries were making their way to Earth. It's also the endpoint for the mass router trunk between Sol and Focus, as well as the first place humans visit outside our solar system.

The Split Horizon: A sister city to Wayfarers' Haven. the first human enclave at Focus, and the only

orbital colony to use centrifugal gravity. It's a standard O'Neil Cylinder design with two counter-rotating toruses and a connecting axle.

Moonlitter: The second of the two gas giants. It divides the inner belt from the outer belt. It has quite a few colonized moons, hence the name.

The Outer Belt: The outermost part of Focus. It's divided in turn into the borderlands (still looking for an English name) and Partisan territory. The border between the two is supposed to be the orbit of the dwarf planet mentioned in *The Artificer's Litter* but the Partisans claim the entire outer belt has been an integral part of Partisan Territory since ancient times. It is one of these pushes outside their agreed-upon border that initiates the formation of Wayfarers' Haven.

This is all still pretty sketchy, but I'm happy with the results so far. Other than Hearthside and the Partisans, I haven't divided the system politically yet. I suspect Yih will have numerous independent states, Newhome will either be a single government or have two or three independent states, and so forth.

Orbital Colonies and Wayfarers' Haven

Spacers (Commonthroat qGKqJqg, {huff long rising strengthening growl, huff, long high weak growl, huff, short low weak growl}) are yinrih who live and work primarily in outer space.

As I've stated many times before, orbital colonies have no artificial gravity since that allows yinrih to use all their paws for grasping while in motion.

Many orbital colonies are satellites of a planet or moon. These are usually exclaves of a terrestrial government. There are also colonies that orbit around Focus itself, usually in the inner or outer belt, but there are a few colonies inside the orbit of Hearthside very close to Focus. These stellar stations are mostly monasteries.

Belt colonies act like perpetual boom towns, going from asteroid to asteroid to mine the minerals to trade for other goods. Some colonies simply exist because there are resources to mine. Others, such as Wayfarers' Haven, only mine to keep the lights on, but the reason the people are there is to come together as an independent and self-governing community.

The first thing you'll notice upon entering an orbital colony is the lighting, or lack thereof. Yinrih can see wavelengths from 12 mm all the way up to the edge of ionizing radiation in the UV range, so what constitutes comfortable "white" light for them is culturally dependent, and it's as often as not outside the human visible range.

The other thing you'll notice is the smell. Yinrih fur sheds constantly, and they have a natural musk, so even though they're just as concerned with personal grooming and cleanliness as humans are, they can't help but have an aroma about them. Most humans liken it to the smell of a kennel. Wayfarers' Haven is even affectionately called "The Kennel" by human visitors.

Orbital colonies come in diverse form factors, but a common template, seen with Wayfarers' Haven, is to have a wide central axis that acts as a "main street", with modules attached to the sides. These modules can even be smaller thoroughfares, with smaller capsules attached to them in tern. The result looks from the inside like a large American shopping mall if it were designed by the people who made the game Descent.

The central axis is quite broad, so cabling is suspended at regular intervals to allow residents to pull themselves along and to keep people from being stranded floating in the middle. It looks like a mile-long jungle gym. There's also constant air circulation throughout the colony, both to keep CO2 from collecting and to filter out all the shed fur and other particulates. I can only imagine what the filters must look like when they need to be changed.

The "shops" in this case can be personal quarters, businesses, government offices, schools, and so forth. Personal quarters in particular are an interesting case, as they're often designed to be portable, like a mobile home. They can't move on their own, but can be loaded onto interplanetary ferries and attached to other colonies.

Wayfarers' Haven started out as a refugee camp of mostly other spacers, but also some surface-dwellers of a dwarf planet in the Outer Belt that the Partisans decided they wanted for themselves. While the land grab is mostly just that, it didn't hurt that the natives they were evicting were Wayfarers. The Allied Worlds got wind of the pending invasion, and helped the residents get out before they could be subjected to whatever horrors the Partisans could come up with.

Since Wayfarers' Haven was originally a refugee camp, it looks a lot like someone welded a bunch of FEMA trailers to a giant version of the ISS. That's because it basically is a bunch of FEMA trailers, or the cultural equivalent: Allied Worlds standardized refugee aid capsules.

As you intuit, the culture is very pious, so some traditional practices are maintained, like the engine room doubling as the Lighthouse, and the town hearthkeeper also filling the role of chief engineer.

Since the engine room is also the Lighthouse, every surface is absolutely encrusted with bones. While most of the colony's vital systems rely on more conventional generators, the customary star hearth still powers the individual homes of the residents in accordance with tradition.

After the mass router is perfected, Wayfarers' Haven is chosen to be the endpoint for the trunk line between Sol and Focus since it's technically the only state to have any relations at all with Earth.

As for how the individual missionaries ended up there, Tod was one of the Peacekeepers helping with the evacuation and resettlement, and decided to settle down there after his tour of duty ended. Sunshine wanted to work under one her old teachers who was one of the refugees. The others were refugees themselves.

These are just some preliminary thoughts. I have a lot more to say in the future about spacer society and Wayfarers' Haven.

An idea for Newhome

Remember way back when I said I based some of Focus's features on outdated ideas about our solar system? That's why Hearthside is tidally locked, like Mercury was once thought to be, and why Sweetwater is so wet, like Venus was once depicted in pulp sci-fi stories.

Once such outdated idea, far more ancient than the above, is the concept of Antichthon, or counter-earth. A planet sharing Earth's orbit but out of phase by 180 degrees, meaning it would always be hidden by the sun from our perspective. What if Newhome was co-orbital with Yih, but closer than 180 degrees, maybe 60. I'm not sure how easy or hard it would make it to get there from Yih using early space-age tech, but it would certainly make it easier to terraform.

This would also have a huge impact on early Claravian theology. At the time of the Theophany the yinrih don't even know what stars are, and the naked-eye planets might be considered stars for some time until research monasteries develop telescopes. Once they learn that Newhome is a terrestrial planet much like Yih, they get excited thinking Starfolk are just next door. This galvanizes research monasteries to progress toward spaceflight, but as astronomy develops in parallel with this push, they eventually realize that Newhome is a barren rock. This discovery may contribute to the Shakeoff, as it would make it seem like the Bright Way's ambitions of spaceflight are a fool's errand.

The fact that Yih has life and Newhome doesn't despite being nearly identical (minus the ring) also sparks much debate in and out of the Bright Way. In many ways it parallels the situation of yinrih and tree dwellers. Why are yinrih sapient and not also the tree dwellers? Why does Yih have life and not also Newhome? I can see research monks spending a great deal of time on the subject of Yih's ring since that's the only major difference between the two planets. This idea that a ring is connected to the existence of life may persist up to First Contact. It may influence how Wayfinders (those among the missionaries who select planets to visit) evaluate potential missions.

I should add that Newhome would have a different name up until the Mechanists arrive to terraform it. They rename it to Newhome in order to distance themselves from Yih.

Quick sketch of Wayfarers' Haven

Image

It's a toroidal structure encircling an asteroid.

The Torus is the main axis. There should be greebles on it as it's far from smooth. Remember, it's a refugee camp that turned into a city-state over time, so there's all sorts of ad hoc stuff bolted to the axis.

There's a breeze circulating around the main axis, allowing you to float around it like a lazy river.

An idea for Yih's Ring

Rings are ephemeral on a geologic time scale. One figure I've seen is that they exist for around 100 thousand years if not shepherded by moons as with Saturn. So what if the event that formed the ring happened within a few millennia of the kindling? There's no historical record of it and no cultural imprint as it happened prior to the evolution of writing and the dawn of sapience. This would contradict my earlier idea that the Bright Way would waste a bunch of time on rings being necessary or beneficial for the formation of life since it would be pretty clear geologically that life existed prior to the formation of the ring.

The ring would form from the decaying orbit of a captured asteroid, similar to what is predicted for the moons of Mars.

More ring stuff

OK, let's assume Yih's roche limit is 1.42 Yih radii (from the center of Yih). This represents the outer radius of the ring. Let's further say that the inner radius of the ring is 1.21 Yih radii (again measured from the center of Yih), making it half way between Yih's surface and the roche limit. This gives us a width of 0.212 radii or about 851 miles for the width of the ring and another 851 miles between the surface and the inner edge of the ring.

I need to see how Yih's lower gravity, higher surface pressure, and lower lapse rate would effect the pressure profile of the atmosphere, particularly where the Karman line is. Since low orbit on Earth is around 450 miles above sea level, that means there's probably room for orbital flight before yinrih have to worry about the ring.

As for climate, latitudes between 7.2 degrees and 15.2 degrees would be effected by the ring's shadow during the winter solstice. Half way between the winter solstice and spring equinox, the shadow would cover between 3.25 and 6.563 degrees. There would be virtually no shadow during the equinoxes.

At around 34.265 degrees latitude, the bottom edge of the ring would touch the horizon and the ring would take up about 12.258 degrees of visual field. The ring would be completely below the horizon at around 45.233 degrees latitude. All these ignore atmospheric optical effects.

The origin of caerulium

I'm just full of ideas today. What if caerulium came from the event that formed Yih's ring. I stated earlier that the ring was a captured asteroid whose orbit had decayed in the geologically recent past prior to the Kindling. In addition to forming the ring, much material rained down onto the surface, forming a belt of caerulium deposits along the equator. Since this was geologically recent, these deposits would be at or near the surface right smack dab in the yinrih's home range.

Caerulium can be cold worked and has a relatively low melting point, but isn't practical for making tools. Nevertheless, it serves as a tutorial of sorts for vulpithesine metallurgy.

Yih Ice Caps

Yih may not have polar ice caps. If there are few continents, that means the ocean currents can freely flow between equator and poles, moderating the global climate. This means the south pole, which is part of Damsback, can be colonized.

Keeping with my use of outdated theories to construct Focus, yih may only have significant land south of the equator. Very old theories about the arrangement of land on earth said there was no or very little land in the southern hemisphere (in Purgatorio Dante calls the southern hemisphere the hemisphere of water for example.)

Equirectangular map of Yih

Image

After playing with Blender's texture painting tool on a sphere, I got what I think is a good map of Yih. There are two large continents, one at each pole, and an Australia-like landmass between them to the West. I may relocate the northern polar continent to be closer to the equator and have most of the northern hemisphere as ocean.

Welkinstead's Gravity

I just learned that Jupiter's "surface" gravity (measured at the cloud tops) is only around 2x that of Earth's. This is because even though Jupiter is much more massive, it's also much larger, meaning the "surface" is much further away from the center. I think that puts me in acceptable fudge territory such that I can believably ignore most of the biological effects of higher gravity. Even more so when you take into account the floating cities will be somewhere below the top of the atmosphere, and you don't feel the gravity of a hollow sphere if you're inside it, the mass of the hollow sphere being the atmosphere above you.

I'm still mulling over whether the cities are sealed or whether they exist at a level in the atmosphere where the pressure is survivable and the mixture of gases breathable. If they're sealed, they would just be orbital colonies with gravity as far as internal design is concerned, so for the sake of uniqueness I'm leaning toward it being breathable.

so-called "terraforming" would be making that breathable layer of the atmosphere. The city would be very much like an oil rig, with extraction equipment hanging from the underside and extending down into the non-breathable but exploitable gas layers.

A picture of Welkinstead

Image

Here's Welkinstead. The floating cities are clustered along two subtropical high pressure belts where the subsiding air helps keep the poisonous gases from upwelling into the breathable layer where the cities can be found.

Making the Galaxy Less Lonely

Before mass routers were perfected, interstellar travel was strictly the domain of missionary Wayfarers seeking other intelligent species. The logistics of setting up a colony on a barren world outside of Focus were just too costly, both in economic and personal terms.

While travelling via mass router isn't trivial (it comes out to about the same cost as an international flight) it's far, far easier than sealing yourself in a womb ship and entering suspension for centuries. Now, you can have a ship that is unmanned, but with life support and a mass router aboard, sent to promising exoplanets, and only send crew over around the time the ship lands.

Over the coming millennia, this enables the mass peopling of the galaxy by humans and yinrih alike. However, not everyone is OK with this. The traditional wing of the Bright Way is generally against colonizing exoplanets, as they believe The Light gave them the one star alone to conquer. They must leave the rest of the galaxy as fertile soil for other souls to spring forth as The Light sees fit, just as they did on Yih and humanity did on Earth.

The Outer Belt

At the time leading up to the War of Dissolution, the Outer Belt was a place of stark contrasts. Much like Newhome before it, the Outer Belt was an attractive place for misfits and ideologues, being as it was at the edge of yinrih civilization. Among these ideologues were militant secularists.

The Outer Belt was also the dumping ground for elements that the hierarchy deemed undesirable, including incompetent engineers and aging infrastructure, but also the missionaries, who, along with Hearthside, were a hotbed of movements and ideas that would later coalesce into the Pious Dissolutionists. The Outer Belt suited the missionaries just fine, though, as it was that much closer to interstellar space.

The hierarchy didn't exactly help their case by giving the Outer Belt the short end of the stick. Power delivery was sporadic, interplanetary communication was unreliable, and ferry service might as well not have existed at all.

So you have two groups who are ill-disposed to the "corporate" side of the Bright Way already, living in an area underserved by the Bright Way's services while still being expected to pay the same tithes as someone from the inner planets where things ran much smoother. It's not hard to see why the war began here.

The militant secularists were a disorganized lot of terrorists staging sporadic attacks against Bright Way infrastructure. Missionaries and other pious Wayfarers themselves were merely attacked rhetorically rather than physically... at first. The secularists got a lot more organized and a lot less tolerant after a strong leader rose to unite them. More about that guy in an upcoming post.

Golden Hour City

Golden Hour city is a small village located on the terminator of Hearthiside where the sun is frozen near the horizon. The city is bathed in an everlasting golden glow. It's notable for being the location of the clinic where the donated human cadavers were studied, and where the first living humans were examined by yinrih healers. It's also one of the smallest cities at Focus to get a dedicated mass router, installed next door to the clinic, so that the cadavers could be transported more efficiently.