

ROSETIA

A FIRST CONTACT SIMULATOR

WORLDBUILDING BIBLE:

The ALIENS, PLANETS and PEOPLE of ROSETIA

REMEMBER: Essential information should not be conveyed through pure exposition, but filtered through the casual opinions of characters; in this way it acts both as worldbuilding and characterization.

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GUIDE: QUESTIONS TO ASK YOURSELF

- What do they eat?
- Who transports and distributes the food?
- How are items that take skilled labour to make created and distributed?
- How does scarcity govern their lives?
- How varied is the geography and climate?
- How do they organize their calendar?
- Have groups developed together or apart?
- How do they organize their families / social units?
- How do they commemorate the dead? Burial practices?
- To what degree do they control their own environment?
- What threatens the continuation of their society?
- What other life-forms/animals are there? Are they big or small, scary or mundane, wild or domesticated?
- How do they communicate with one another?
- Do people speak multiple languages? Is there dominant, bridge, or trade language?
- Do they have writing systems / modes of non-verbal/visual communication?
- Are their religions organized, sacrificial, polytheistic, or animist? Do they believe in an afterlife, enlightenment, reincarnation or karma?
- What is their technological level?
- How are large objects moved?
- What is their rate of societal expansion / progression?
- Who are the outcasts in society?
- How do they maintain law and order? What happens if you violate the law?
- What topics or behaviours do people consider rude or inappropriate?
- Do they have status systems or hierarchies?
- Is there wealth and income inequality?
- Are they collectivist or individualist?
- How do people meet, greet, address, and depart from one another?
- Do they practice what they preach (honor, compassion, etc.)?
- What does their art, music, theatre, and literature look like?
- Does their clothing reflect their world or society?
- Do they have celebrations or commemorative festivals?
- How do they reproduce?
- Do they have sex or gender?
- Do they have intuitions of monogamy or marriage?
- How do people age/mature? How long is their life expectancy?
- How are people educated? Are they educated equally?
- How do most people make a living?
- What happens to trash and sewage?
- What do people do when they get sick?
- What do people do in disaster scenarios (fire, hurricane, flood)?

#1.0) TORTAN WORLDS

HOME STAR ATTRIBUTES

- Star Type: M1 Red Dwarf (bordering on K-type Orange Dwarf designation due to high luminosity)
- Variability: BY Draconis Variable (luminosity flickers due to frequent sunspots)
- Age: 4.35 billion years
- Rotation: 33.695 Earth days
- Galactic Arm: Orion-Cygnus
- Natural Satellites: 6 terrestrial planets; SAGAN-186 b, c, d, e, f, and g (formerly f; the Tortan homeworld, previously unconfirmed but suggested by its sibling's relative orbits, occupies an orbit between e and the now-titled g)

HOME PLANET ATTRIBUTES

- Designation: SAGAN-186f
- Given Name: Triune
 - Alternately translated as "The Three Earths" or "The World of Worlds"
- Distance from Earth: 97 light years
- Distance from Host Star: 0.432 AU
- Orbital Period/Year: 129.940 earth days
- Rotation/Day: 129.939 earth days
- Avg Temp: 16.5 Celsius at planet terminus; -39 C on dark side of planet; 66 C on light side
- Climate: ranges from intense desert to permanent glacial cover; no seasons due to near-perfect circular orbit and lack of axial tilt
- Atmosphere: 0.63 atm; 75% Nitrogen, 24% Oxygen, 0.6% Argon, 0.4% Methane
- Magnetosphere: Class 3M
 - 26x stronger than Earth magnetosphere (Class 1A)
- Natural Satellites: 2
- The Search for Extra-Terrestrial Intelligence Agency (SETIA) Planet Observation Records:
 - **-97 BFC**: month-long radio observation at Allen Telescope Array (no results)
 - **-90 BFC**: massive, irregular, month-long decrease in star luminosity detected by James Webb Space Telescope; first interpreted as asteroid belt or possible solar array transiting star (see: [Dyson Swarm](#)); dimming later revealed to be symptomatic of star's known variability
 - **-69 BFC**: substantial oxygen detected in planet f atmosphere via long-range spectral line analysis at Atacama Array in Chile; planet flagged as possible target for far-future colonization
 - **-68-59 BFC**: independent observation by both Atacama and Square Kilometre Arrays confirms weak, intermittent radio waves of indiscernible pattern originating from system; dismissed as non-artificial background noise
 - **47 AFC**: series of extra-solar nano-second laser pulses detected by UNSA at Luna Crater Radio Observatory; binary message comprised of first 4096 prime numbers, first 4096 digits of pi, first 4096 perfect squares; message ends after repeating for 320 hours
 - **47 AFC**: message relayed to SETIA Sphere at Teegarden's Star via CASIMIR wormhole link
 - **54 AFC**: ARECIBO launched from SETIA Sphere
 - **248 AFC**: ARECIBO projected to arrive at SAGAN-186 system; 97 light years from Teegarden's Star at ½ speed of light)
- Basic Description:

- Triune is a twilight world. Its day and year are the same length, making it ‘tidally locked’ to its host star. This leaves one side of the planet in constant darkness, and the other in blistering heat. While the movement of wind, water and clouds between hemispheres minimizes the temperature differential between these two halves, conditions for advanced multicellular life are most favourable in the space between them—a narrow ‘goldilocks’ band stretching around the terminus of the planet. There, the dominant species—Tortans—live in the dim glow of an endless twilight, their red sun looming large over the horizon, forever fixed in the same place. As a result, most Tortans have never seen a clear night sky. Only those living in the farthest reaches of habitability have ever seen the stars, and along with them a dazzling, ever-present aurora from the planet’s thick magnetosphere—a radiation shield permitting life to exist on a world so close to its sun.

HOME PLANET ATTRIBUTES (SPECIFIC)

- **DARK SIDE:**
 - not totally barren – like antarctica, has hundreds of lakes under the glaciers
 - water generated by weight of the glaciers produces thin ice-berg ocean at the rim
- **OCEAN:**
 - Incredibly deep to allow free-flow beneath the ice caps
 - Transports heat around, substantially increasing size of the ‘habitable’ band
 - Water flows in veins toward the sunward side to gradually dry up and evaporate
- **CLIMATE:**
 - quickly transitioning ecosystems according to closeness to the sun
 - strong wind systems due to hot/cold interactions in atmosphere
 - snow falls from sunward side as the water cools
- **GEOGRAPHY:**
 - Heavy mountains along the glacier edge due to their immense weight pushing against the crust
 - Molten core of planet produces massive magnetosphere to deflect and absorb increased levels of solar radiation due to star proximity; several magnitudes stronger than Earth’s
 - Significant tides created by small but very close moon
- **ECOLOGY:**
 - Triune only receives half the energy that Earth receives from its sun, mostly in the near-infrared range; the planet receives very little UV light
 - Lack of UV light makes an ozone layer unnecessary for life to exist on land, highly favouring anaerobic land life and non-oxygenic photosynthesis
 - However, Triune’s atmosphere *does* have substantial oxygen and a thick ozone layer, suggesting that an oxygen metabolism is more favourable to multicellular life, as very little oxygen is required for a decent amount of energy while producing little CO2 waste,



whereas anaerobic life is forced to concentrate and excrete a comparatively great amount of waste

- The presence of photosynthesis on the low-light Triune is possible due to the existence of Chlorophyll D – an alternative to Earth’s dominant Chlorophyll A which allows plants to use a wider spectrum of photons to sustain photosynthesis—specifically photons from visible light through to wavelengths of up to 740 nm in the near infrared range)
 - D exists on Earth, but is used only by certain species of cyanobacteria living in low-light environments
- While this process is slightly more cumbersome, using three or four near-infrared photons to split H₂O rather than the two needed on Earth, it is just as (if not more) efficient than Earth plants at whole-cell energy storage
- This is why Tortans can effectively generate energy from the plants on their backs, and why the dominant form of renewable energy is a form of photosynthetic biomimicry: on Triune, Chlorophyll D means that low energy photons are more than sufficient catalysts for producing hydrogen fuel and biofuels
- FAUNA:
 - No migration; species are uniquely adapted for a specific temperature and light level
 - Tortans are the only species able to survive in all three zones; a testament to their intelligence and adaptability
 - Abiogenesis: would experience many comets (as red dwarf would not melt them), possibly as an origin for life on the planet

HOME SATELLITE ATTRIBUTES

SATELLITE #1: **CALENDAR MOON**

- Triune’s larger and closer blue moon
- Stable, equatorial, near-circular orbit
 - Orbital Period: 13.333 Earth Days
- Moves from West to East, emerging from the sun and setting in the darkness
- Progresses from a new moon to a full moon over the course of a single arc across the sky
- Due to tidal locking of host planet, is gradually being pulled towards Triune in the same way that the Moon is gradually being pulled away from the Earth

SATELLITE #2: **TRAVELER MOON**

- Triune’s smaller and more distant red moon
- Non-spherical captured asteroid; orbit will likely destabilize within 10-15 million years
- Irregular, ecliptic (on an angle), elliptical (oval-shaped) orbit
 - Orbital Period: 135.5 Earth Days
- So small that it can barely be seen on the Strip and Sun-side; on the Starside it appears as a wandering red star, the biggest and brightest in the sky

#2.0) TORTAN BIOLOGY

BIOLOGY	TWILIGHT STRIP	STARSIDE	SUNSIDE
SHELLS (PLANT-ANIMAL SYMBIOSIS)	<ul style="list-style-type: none"> • Tortan shells are not hard carapaces connected to their spines (as with Earth turtles), but multilayered epidermal growths rich in both light and heavy elements: ‘Shell-beds’ • Deepest levels comprised of heavy metals to protect against flares and other fluctuations of their sun 		

	<ul style="list-style-type: none"> • Surface is loamy and porous, composed of minerals and lighter elements (nitrogen) to create a fertile yet solid bed for plant-life • Tortans co-opt the biological processes of native plant-life, integrating these separate organisms into their own bodies in a kind of plant-animal symbiosis <ul style="list-style-type: none"> ○ Energy and oxygen collected through plant photosynthesis is absorbed into Tortan body and used to power biological, respiratory processes ○ Excess nutrients are expelled through epidermis to provide plants with a richer and more constant supply than they would find in regular soil ○ Excess CO2 created through respiration rises through the root system of plants to further facilitate photosynthesis • Existence of Tortan lungs and digestion system suggests this symbiosis is a supplementary process rather than a necessary one—while a total lack of vegetation results in trouble breathing and sluggishness similar to low-grade sleep deprivation, it will not result in immediate death (though the risk is substantially higher in infants) • While this symbiosis is theoretically possible with any form of photosynthetic life with a root system, interdependent evolution has produced several plant strains uniquely adapted to Tortan physiology; this has been actively cultivated over several centuries through selective breeding of plants for different purposes (see: PLANT-BODY MODIFICATION) 		
AGE	<ul style="list-style-type: none"> • Long lived; no upper limit on aging; negligible senescence; organs do not break down or become less efficient over time—the major organs of a tri-centenarian Tortan are almost indistinguishable from its younger counterpart • Slow development of Tortan medical sciences means that individuals eventually succumb to cancer, heart disease, etc.; the average Tortan can expect to reach around 480 in local years (200 in Earth years, 5.8 Tortan Eras), though many grow older <ul style="list-style-type: none"> ○ “On Triune the sun never sets and nothing ever dies.” 		
ILLNESS	<ul style="list-style-type: none"> • Difficulty integrating plant life; most common in centenarians; origin of colloquial notion of plants being unable to “take” as a suggestion of age • Parasitic plants (See PLANT-BODY MODIFICATION) • Gall; Tortan equivalent of gout, common in wealthy urbanites; comes from Earth name for plant-bump caused by insect or infection 	<ul style="list-style-type: none"> • Vitamin deficiency and malnutrition; harsh climate and lack of sunlight supports basic mosses only – must be supplemented with concentrated proteins • Involuntary hibernation; if away from a heat source for too long, cold-blooded body rapidly loses function, causing death from exposure (plant-death, frostbite) 	<ul style="list-style-type: none"> • Muscle atrophy and bloating from excessive sunning/basking (for photosynthesis and thermoregulation) • No UV rays = no skin cancer or sunburns
SENSES	<ul style="list-style-type: none"> • SIGHT: acute vision; able to recognize shapes and patterns; spectrum trends toward the near-infrared (cannot see violet, and have a limited sense of blue) <ul style="list-style-type: none"> ○ Have a small parietal ‘third’ eye between their two dominant eyes which allows them to passively sense fluctuations in the output of their infrared-dominant star • TASTE: Enjoy bitter and sour tastes; savoury tastes are enjoyed only by people far Starward; sugary tastes are prized, but the lack of a sugar-cane-equivalent makes large-scale production impractical; Tortans can be easily swayed by candy • SOUND: limited hearing; no eardrum or outer ear makes them unable to hear high-frequency sounds 		

	(such as chirping birds), but can pick up air displacement and vibrations coming off the ground; Tortans will hear your steps long before you open your mouth. This is tied directly to their speech...	
SPEECH	<ul style="list-style-type: none"> • Tortans speak in infrasound—low frequency waves below the lower limit of human audibility (< 20 Hz), often transmitted through the ground as Rayleigh waves • Allows for long-distance communication up to 20 KM away, and the hearing of deep-earth geological effects (avalanches, meteors, weather systems, earthquakes, volcanoes) over 1000 kilometres away • While this has no impact on their written language, it makes hearing Tortan speech nearly impossible for humans, necessitating the use of a spectrogram and machine translation <ul style="list-style-type: none"> ○ While the relative frequencies of Tortan tones can be shifted upward to make their speech ‘audible,’ it serves little functional purpose given that Human-Tortan communication must be filtered through a computer translator anyways ○ Humans <i>should</i> be able to feel high-intensity Rayleigh waves through their Pacinian corpuscles (located in the joints) but people do not seem to consciously recognize these signals; suggests humans may be able to partially understand Tortan speech with training, though natural production of Tortan speech is likely impossible • Lack of lips means that all Tortans speak tonally, through the combination of different sustained frequencies (see LANGUAGE and WRITING) • Speech / hearing deeply impacts... <ul style="list-style-type: none"> ○ Attention: Tortans have no problem filtering different voices out of a cacophony of sound; capable of distinguishing between hundreds of different low frequency Rayleigh vocalisations <ul style="list-style-type: none"> ▪ Superior human technology (Rosetta) is incapable of this in populated areas; explains why the player isn’t being fed a constant stream of gossip <ul style="list-style-type: none"> • Source of confusion for people why the alien doesn’t respond to their calls ○ Identity: Individual voice is very important to distinguish different speakers ○ Stealth: impossible to sneak up on anyone else unless they are deaf; phrases like “back-stabber” do not exist ○ Privacy; unless speaking in code, there is no way to disguise long-distance infrasonic communication; anyone in the path of the wave can hear ○ Diplomacy: historically Tortans experienced less warfare and hostile reactions between tribes as it was possible (even before the invention of radio) to actively talk to 	<ul style="list-style-type: none"> • Since Rayleigh waves decay slowly, the unobstructed environment of the desert makes them detectable over long distances • Wandering ascetic Tortans are able to communicate with others over one hundred kilometres away without moving, similar to Earth elephants (to indicate favorable watering holes, maintain relationships, debate philosophy, etc.) • Facilitates their self-imposed unsociability in which everyone is “an oasis unto themselves”

	people without them being close enough to hurt you		
RACIAL ATTRIBUTES	<ul style="list-style-type: none"> • Mid-toned skin; brown, yellow and light green • Tall and lithe; consistency and diversity of food sources means extra growth; also evolutionary adaptation to reach trees (Not present in other locations) 	<ul style="list-style-type: none"> • Darker skin; dull green and black (to better absorb light; no UV rays to make lighter skin advantageous in darker locations); in-keeping with the negative stereotype of 'Shadow People' • Thicker, stouter; do not warm easily, but don't lose heat easily either 	<ul style="list-style-type: none"> • Light skin: pale shades of white, yellow, orange; no UV rays to make darker skin advantageous in hot, overexposed locations • Greater genetic diversity in skin tones of those in the far-desert (red waves, black polka dots) <ul style="list-style-type: none"> ○ Migratory, solitary nature means that individuals will travel long distances before breeding
SEX and REPRODUCTION	<ul style="list-style-type: none"> • Tortan reproduction system, like most other Tortan systems, is tied to their shell-beds • Once a Tortan has reached sexual maturity (546 Tortan weeks, 56 Triune years), organs within the body release reproductive cells into the shell-bed and up through the root systems of the plants present • If any plant is of sufficient size, sturdiness and genetic makeup, the reproductive cells will reprogram the undifferentiated stem cells in the topmost shoots to produce a unique flower, separate from the natural flowers of the plant in both appearance and complexity • Process is, unsurprisingly, called 'Flowering' • Like any flower, the Tortan reproductive flower contains a carpel (female organ) and a stamen (male organ) which produces pollen derived from the original reproductive cells • Impregnation occurs when pollen successfully enters the carpel <ul style="list-style-type: none"> ○ This does not need to be the pollen of another flowering Tortan; as with plants, asexual reproduction is possible • Asexual reproduction, lack of sexual dimorphism and presence of both Earth-gendered sexual organs means there is <i>no distinction between 'Men' and 'Women' on Triune</i>; Tortans will often fulfill both male and female roles within the same mating season • Chances of fertilization are increased by number of factors: <ul style="list-style-type: none"> ○ Genetic 'fitness' for reproduction ○ Genetic dissimilarity of the two individuals ○ Genetic similarity of the plant species being used for reproduction ○ Breed of plant species being used for reproduction (some are better than others) • If the carpel is successfully fertilized, Tortan reproductive organs will release further genetic material into the shell-bed to facilitate the transformation of flowers into 'buds' – egg-like growths containing Tortan fetuses which gestate for a time before being released, like fruits from a tree <ul style="list-style-type: none"> ○ Material and physiological conditions of a parent determine the quality of their buds and the speed at which they mature; a malnourished Tortan without access to sunlight will produce buds with a greater mortality rate and susceptibility to illness, much as malnourishment and alcohol-use will negatively affect human babies • Average Tortan will produce dozens of buds each mating season; only 6-8 of these will grow strong enough to be incubated within the ground (becoming 'seedlings'); only 3-4 of them will survive the long incubation period of 10 local years (3.4 Earth years) to emerge from the ground as fully-formed infants ('sprouts'); and only 1-2 of them will reach reproductive maturity 		

	<ul style="list-style-type: none"> ○ Seedlings are thorny and bitter on the outside to discourage animals from eating them • ‘Failed’ buds are often kept buried alongside the surviving ones to increase the fertility of the surrounding soil, but also as a ritual of mourning <ul style="list-style-type: none"> ○ <u>A Parent’s Prayer:</u> “Our buried child may never grow, but body by body, bud by bud, sustain the living, and those to come.” • The multiple steps and interdependent conditions involved in this process make reproduction difficult and infant mortality high <ul style="list-style-type: none"> ○ Creates strong emotional burden; people will nurture seedlings for months, watch their sprouts slowly develop over years, only for them to die anyways <ul style="list-style-type: none"> ▪ For this reason Tortans consider life to begin not at conception, but at burial (the ‘seedling’ stage; ○ No debate surrounding abortion as flowers can be easily trimmed, buds destroyed, etc. without physical cost to individual or reliance on a physician; however, still a social faux-paux • Once born, further survival is dependent on the infant being quickly seeded to enable full respiration and independent energy generation (the same way human babies are slapped on the back to get their lungs working, given breastmilk after the umbilical cord has been cut) • Reproductive process reoccurs every 500 weeks or so, but there are ways to induce it artificially • Lack of menopause means Tortans can theoretically reproduce even in old age, but conception proves exceptionally difficult once a Tortan has lived for more than 4096 weeks, a single generational era (aprox. 86 Earth years), after which they are considered a true adult 		
DEVELOPMENT AND INTELLIGENCE	<ul style="list-style-type: none"> • While the budding process is not resource intensive on the Tortan body in the same way that human pregnancy is, the trade-off is a longer developmental period: sexual maturity is reached at 56 local years (20 Earth years) and psychological maturity at 98 local years (35 Earth years) • Young Tortans (‘sprouts’) have an unusually high brain plasticity; learning capacity at birth greatly outmatches that of humans; can learn dozens of dialects and skills at a rapid pace • Knowledge integration decreases substantially over time, however; while older Tortans have exceptionally strong memories, most have difficulty forming new connections or accepting new ideas <ul style="list-style-type: none"> ○ Responsible for the stereotypical stubbornness (or ‘hard-shelledness’) of older Tortans, stuck in their ways 		
DIET	<ul style="list-style-type: none"> • Mostly herbivorous diet (grasses, weeds, leaves, flowers, fruits, lichens, mosses) as a supplement to natural photosynthetic diet • Ingesting own plants, plants of others is taboo – there is a fine line between plants bred for photosynthesis and reproduction VS consumption (easy for player to make mistakes) 	<ul style="list-style-type: none"> • Adapted to the absence of vegetation by consuming proteins via small animals, <i>lots</i> of fish; very little carbs in their diet • Have stronger cardiovascular systems to compensate for their sunlight-reliant respiratory systems (like Sherpas, people living at high altitudes) • Have learned to use infrared vision of parietal eye to hunt warm-blooded creatures on the tundra 	<ul style="list-style-type: none"> • Rely mostly on photosynthesis due to the absence of abundant, non-succulent vegetation • Ingesting plants of any kind is highly frowned upon – tantamount to cannibalism, destruction of self and environment
SLEEP	<ul style="list-style-type: none"> • Sleep in short burst of 1-2 	<ul style="list-style-type: none"> • Cyclical presence of moon in 	<ul style="list-style-type: none"> • Undeveloped society; lack of

	<p>hours whenever tired</p> <ul style="list-style-type: none"> • No standardized separation between 'work' and 'rest' periods, making services notoriously difficult to access (though merchants and specialists will usually have their personal hours posted) • Hours and 'days' are still tracked via a lunar cycle for scheduling purposes 	<p>sky allows for more conventional work/rest periods similar to Earth days and nights</p> <ul style="list-style-type: none"> • Are still predisposed to sleeping in short bursts—non-working rest periods are usually divided into two sleeps of 4 hours with an equal gap in-between 	<p>sun or moon cycle means they have no organizing work/rest period, no sense of time</p> <ul style="list-style-type: none"> • "Subjects with no future experienced a loss of identity and a profound euphoric mystical sensation—one person reported that he "found himself in a boundless. immanent present." Expanded futures canceled all fear of death, inducing serene calmness and happiness." • Sleep with one brain hemisphere in slow-wave sleep at a time; allows them to maintain consciousness to listen for threats (necessary given solitary, vulnerable nature) • Plays in with their philosophy of being both sedentary but vigilant, still and yet moving, independent agents outside of time
EVOLUTION	<ul style="list-style-type: none"> • Early history of life on Triune coincides with the end of its star's violent, flaring period (first 1.2 billion years of a red dwarf's life cycle); Tortan evolutionary scientists theorise that such flares have been the likely cause of six mass extinctions over the past several hundred million years • Extinctions have guided evolution to select for only those species able to survive flares <ul style="list-style-type: none"> ○ Accounts for the metallic shells, exoskeletons or epidermal growths of almost all multicellular life on Triune, from hardy seeds to Tortans themselves • Continuance of such features despite the lack of serious, life-threatening flares over the past several million years remains an open question for Tortan scientists • More recently their star's variability has trended towards the opposite problem: not sun flares, but sunspots: several week-long periods of extremely limited sunlight causing short, mini-winters <ul style="list-style-type: none"> ○ This has likewise guided Triune's evolutionary processes towards those who are able to sense, prepare for, and endure such droughts, thus explaining the Tortan parietal eye and ability to hibernate • Such intense evolutionary pressures have not allowed for serious diversity in animal life; almost all known land animals share such core features (shell, infrared, hibernation) 		
HIBERNATION	<ul style="list-style-type: none"> • High variability of Red Dwarf star leads to exceptionally strong sunspots about three times a generation which lower star luminosity by up to 40% • Because Tortans are photosynthetic and cold blooded, an extended lack of sunlight slows their metabolism to such a degree that they naturally enter a state of extended hibernation 		

	<ul style="list-style-type: none">• All Tortans have a ‘hibernaculum’ in their home, usually in the form of a basement cellar• Hibernation optional in modern era due to invention of plant lighting, greenhouses, internal heating and food preservatives<ul style="list-style-type: none">◦ While most of these are widely accessible during normal times, Tortan reliance on artificial photosynthesis for power means that energy costs skyrocket during sunspots◦ Avoiding hibernation thus a mark of privilege, rich vs poor—those who hibernate effectively put their lives on hold, while everyone else is free to live and work• Parietal eye allows all Tortans the ability to sense incoming sunspots at the same time, resulting in instantaneous mad scramble for supplies• Triune’s last ice-age 19,000 Earth years ago was the result of an era-long sunspot<ul style="list-style-type: none">◦ Ice coverage expanded far into habitable strip; albedo became so high that it caused a runaway freezing effect that continued even after the sunspot had ended◦ This killed off several megafaunal species and created a population bottleneck—only those who living near the Sunward side were able to survive (and thrive, as water flooded the desert)◦ All knowledge of pre-historic Twilight Strip Tortans derives from preserved remains of those who entered into their dens for what they believed was an ordinary hibernation, never to wake again	
<ul style="list-style-type: none">• Strong culture of non-hibernation facilitated by wealth inequality• Many strains of Strip food are genetically modified with preservatives which extend the shelf-life of properly stored plants for months, even years<ul style="list-style-type: none">◦ Strong overlap between those who oppose GMOs and those forced to hibernate• Modern sensors have advanced past the natural sensory ability of Tortans, giving the Strip government time to prepare for the rush	<ul style="list-style-type: none">• Most will hibernate; while they do not rely on photosynthesis for power or food, the decrease in temperature is impossible to counteract for the average family<ul style="list-style-type: none">◦ Keeping homes warm in temperatures of up to -70C is extremely wasteful and cost-prohibitive• Hibernaculums are deep underground, heavily insulated• Takes longer for the land to return to pre-spot temperatures compared to the Strip and Sun• Families often chose a steward who will wake up once the sunspot has ended to clear the house and community of snow, debris, etc. while the others sleep until conditions return completely to normal<ul style="list-style-type: none">◦ Such individuals are	<ul style="list-style-type: none">• Many hibernate; some migrate towards the sun, following the zone of habitability as it recedes<ul style="list-style-type: none">◦ Usually only attempted by true ascetics, as access to water is extremely limited in an area which is dry and scorching for decades at a time• Higher temperature makes skipping hibernation easier for those with sufficient means and technology, as homes require less artificial heat and light• Results in seasonal communes and summer homes owned by people from the Strip; an extreme point of contention for the People of the Sun, who believe they have no business invading a ecological region which they do not understand and cannot properly care for

		often employed by the Constellation to help clear the rail system or stamp down snow	
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#3.0) TORTAN CULTURE

CULTURE	TWILIGHT STRIP	STARSIDE	SUNSIDE
REGIONS	<ul style="list-style-type: none"> While Tortans are technically organized into a great number of semi-independent townships and states, there are three major ‘unities’ of nations each corresponding to a different ecological region; Tortan cultural identity derives not from a sense of allegiance to any given nation, but from their relationship to the land This is where the name ‘Triune’ (“The Three Earths”) comes from... 		
	<ul style="list-style-type: none"> temperate fertile zone Koppen climate types: oceanic, rainforest, humid subtropical ‘People of the Middle World’ 	<ul style="list-style-type: none"> colder arctic zone Koppen climate types: subpolar oceanic, subarctic, tundra ‘People of the Sky Lights; referred to by other regions derogatorily as ‘Shadow People’ (no conception of stars) 	<ul style="list-style-type: none"> dry desert zone Koppen climate types: hot desert, hot semi-arid ‘People of the Sun Lands’
CULTURAL SUMMARY	<ul style="list-style-type: none"> Dominant culture Embodies many of the problems of modern Western society: good intentioned but bureaucratic; inequality of income; want to maintain the status quo Slow and conservative – despite living in harmony with nature, their reverence for it makes them unwilling to disrupt it in any way; no cultural delusion of ‘progress’ and ever-increasing gains <ul style="list-style-type: none"> Paradoxically conscious of how their actions may affect the future, yet do not ‘look forward’ into their own future <u>POPULATION</u>: approx. 19 million 	<ul style="list-style-type: none"> Secondary culture Similar to Scandinavian countries: economically equal, well-educated, scientific <ul style="list-style-type: none"> While the Strip is more cosmopolitan, the Starside is more ‘woke’ – inversion of the liberal/conservative city/country divide Harshness of environment and isolation of separate clans necessitates strong principles of honour and community justice—a system with many drawbacks <u>POPULATION</u>: approx. 8 million 	<ul style="list-style-type: none"> Tertiary culture Not culturally homogenous; extremely low population density and strong sense of individuality creates great divergence of culture across different desert population groups <u>POPULATION</u>: N/A; distances and lack of centralized government makes census impractical; estimated at 2 – 3 million; at least 120,000 in the far desert
SEXUALITY and CHILD REARING	<ul style="list-style-type: none"> Visibility of sexual receptiveness (flowering plants) means that sexuality cannot be private or unacknowledged 		

	<ul style="list-style-type: none">• ‘First Flowering’ is a celebratory event similar to human coming-of-age or fertility celebrations; whole community is invited• Self-insemination is taboo – strong history of infanticide and social ostracising for genetically identical children and parents under the reasoning that nothing has changed or been gained in the bonding	
<ul style="list-style-type: none">• Go to communal ‘flower houses’ for socially acceptable promiscuous sex• Complicated mating rituals and dances to spread pollen around the room; sex is not between individuals, but a group activity<ul style="list-style-type: none">○ Necessary given the difficulties of finding someone with compatible genes, plants, etc.; more partners = greater chance for successful fertilization• Element of random chance means many flower houses discriminate; one must prove their fitness for reproduction to ensure an acceptable baseline for patrons• Fitness usually determined by genetics and social standing• Upon entrance, applicants are inspected for parasitic or toxic plants such as <i>Tide of Buried Moon</i> which may contaminate pollen or transmit disease• While fathers have no rights over their children due to difficulty in determining parentage, they are not expected to support or be involved in their children’s lives; child is therefore cared for by older Tortans in the community rather than by the parent alone<ul style="list-style-type: none">○ Communal fertility gardens, educational greenhouses, etc.	<ul style="list-style-type: none">• No local flower houses; small, isolated groups would quickly succumb to in-breeding or risk one person inseminating multiple people in a single community (a source of Strip stereotypes)<ul style="list-style-type: none">○ To solve this problem, young are encouraged to journey to different communities and find a partner with whom they can start a new family○ Fosters unity between different mantles at the cost of sex becoming an intensely private affair, extremely taboo to discuss openly• Creates more typical ‘nuclear’ families in which the two pair-bonded heads of house can share intimately in the duties of birthing and raising their children• The resources necessary to start a new family unit means that ‘First Flowering’ is not often consummated—treated more as a coming-of-age event marking transition into adulthood<ul style="list-style-type: none">○ Tortans may wait a long, long time before ‘pairing up’ and allowing buds to grow; results in a low birthrate• Difficulty of conceiving children exacerbated by genetic incompatibility (the reason for	<ul style="list-style-type: none">• Like most groups on the sun side, methods are incredibly varied• Those living farthest from the sun will travel to neutral ground to mate with those from other communes before returning to their original clan; unlike those living Star Side, families are not headed by one mating pair, but consist entirely of mothers, with an elder mother as leader<ul style="list-style-type: none">○ Will plant their young within the commune, and receive help and free care from others in the community• Those living solitary lives farther into the desert will meet up with others by announcing their fertility via long-range infrasonic vocalisations; two individuals will meet up and stay with one another however long it takes for fertilization (this may be a long time if individuals and their plants are not ideal genetic matches)• After budding, prospective mothers will head towards the nearest oasis/watering hole to plant their children<ul style="list-style-type: none">○ Often the mutual mothers/fathers will go to the same oasis and stay

	<ul style="list-style-type: none"> Community-led care also reflected in government; Strip has invested in a robust ‘Sproutcare’ system to nurture and educate young children, thereby easing the emotional burden of getting too attached to sprouts who will ultimately die <ul style="list-style-type: none"> More common in cities, for those without the support of a large family However, most people still plant and raise their children at home Pairing for life does occur, but typically not until old age, once their children have already grown 	<p>Flower Houses), lack of light, and a lack of traditional food sources—even with artificial pollination, Starside buds and seedlings suffer longer gestational periods</p> <ul style="list-style-type: none"> Prospective mothers historically practiced ‘sunning’ beneath the full moon, like moon flowers (common Starside name); in modern era, plant lighting is used Migration south is also an option, but plays into Strip stereotypes of Star mothers crossing borders to ‘steal their sun’ 	<p>together to help protect each others babies until they hatch</p> <ul style="list-style-type: none"> Will stay sedentary for several years to watch over children, contemplating parenthood Children will stay with parent for a number of years before venturing off on their own, though will often keep in touch with parent via infrasound; Tortans are not antisocial creatures by nature
PREJUDICES AGAINST OTHERS	<ul style="list-style-type: none"> Dislike that the ‘Shadow’ people <ul style="list-style-type: none"> Eat meat Lack plant-growth on their bodies Literally live in darkness, a Hellish landscape Are all supposedly inbred (due to their mating practices and colonial history) Want to illegally immigrate, to ‘step into the sun’ (paradoxical given their theology—should <i>want</i> people to come out of the darkness) Are straightforward in their speech and sensibilities; call them “stems” to emphasise their lack of adornment and flare, a flower that 	<ul style="list-style-type: none"> Dislike that the Strip people <ul style="list-style-type: none"> Are ignorant; willfully ignore the larger world around them, the cosmos Live to excess; take everything for granted Are soft; don’t have to struggle for the things they have Engage in promiscuous sex Have children without being able to independently support them Freeloaders; rely on the supports of their society (slightly hypocritical given their reliance on food-sharing, social infrastructure) Have no direct grievances with the Sun people <ul style="list-style-type: none"> Diplomatic relations have not been 	<ul style="list-style-type: none"> Dislike that the ‘Shadow’ people <ul style="list-style-type: none"> Eat meat; while eating plants is taboo, the eating of meat is unheard of; see them as savages, cannibals Live in darkness; would find it unthinkable, unlivable; associate them with shadow demons Dislike that the Strip people <ul style="list-style-type: none"> Are settling their land without truly knowing it; do not respect the processes of the desert Live in such close proximity to one another; would find it suffocating,

	<p>never bloomed</p> <ul style="list-style-type: none"> • Dislike that the Sun People: <ul style="list-style-type: none"> ○ Are so stuck up – think they're better than everyone else ○ Are ignorant and uncaring towards the rest of the world ○ Are 'uncivilized' – unwilling or unable to cooperate with one another, form large communities ○ Are excessively flowery and transient in their speech and sensibilities; call them "petals without roots" 	<p>established</p> <ul style="list-style-type: none"> ○ What they do know of them is coloured in by stereotype and exaggeration by the Strip 	<p>deafening</p> <ul style="list-style-type: none"> ○ Are frivolous; unable to consider deeper aspects of the self, unable to take responsibility for their actions
THINGS THEY WOULD FIND WEIRD ABOUT HUMANS	<ul style="list-style-type: none"> • Concept of two different sexes/genders • External sexual organs • Only being able to produce one or two babies at a time; quick reproductive cycle (by their standards) • Short lifespans • Not being able to speak over long distances or sense vibrations; effectively deaf • Lives revolve around food, consumption of meat • Industrial farming and 'livestock' • Arbitrary, politicised borders that do not consider ecology • Fact that they're from another star • Idea of a fully traversable planet • Walking on two-legs • Being able to live without plants • Whether or not you're a machine • Confusion as to location of mouth • <u>Sample overworld dialogue / Pop-Up Speech Bubbles expanding on this concept of difference:</u> [10% chance a line is triggered when you walk by random NPC] <p>(SOLO)</p> <ul style="list-style-type: none"> ○ How does the alien keep themselves from falling over? ○ "Alien"... just another shadowy immigrant, come to steal our sun. ○ This has been such a strange week. If we make it to the Buried Moon, I'm going to plant some Sage and drink Grasswater until I collapse. <p>(PAIRS)</p> <ul style="list-style-type: none"> ○ I heard under all that fabric the alien is just a mass of red tentacles, like a leaflet. <ul style="list-style-type: none"> ▪ But leaflets only have five tendrils... <ul style="list-style-type: none"> • So an ugly leaflet then! ○ I tried sticking out my tongue as the alien walked by, but they didn't even look at me. <ul style="list-style-type: none"> ▪ That's rude... Maybe it means something vulgar to them? <ul style="list-style-type: none"> • It's the salute of equals, Smallhollow. It's not as though I waved my hand at 		

	<p>them.</p> <ul style="list-style-type: none"> ○ How do you think they grow buds? <ul style="list-style-type: none"> ▪ I haven't even seen them bear plants yet, so maybe they can't. Maybe they've come to take our sprouts, to raise true persons as their own. <ul style="list-style-type: none"> • If called upon, I would be willing to sacrifice my oldest. ○ I heard they came from another Sun, which is... a star? <ul style="list-style-type: none"> ▪ Stars are fiction. Just shadow-people trying to claim some light of their own. There is only the Sun. ○ I can't see their shell. Is it that red thing with the dark stripe? <ul style="list-style-type: none"> ▪ No, no. I've seen them pull food and papers from it. <ul style="list-style-type: none"> • I wish my shell had storage space... ○ I thought you said the alien was an ice-person... <ul style="list-style-type: none"> ▪ No, I said they came from *over* the ice. The sunless place where the Calendar Moon goes elder and dies. <ul style="list-style-type: none"> • A place of darkness and dying... I can't fault them for leaving, then. ○ I can't figure out which face I'm supposed to look at... the black one or the red one? <ul style="list-style-type: none"> ▪ Just look to the right of them and nod. I'd rather show age-deference by mistake than offend a creature that can fly. ○ They gave the alien guest-right... and now they're just walking around? <ul style="list-style-type: none"> ▪ I hear you. And on two legs, like some sprout-sized mossomer... ○ It can't be healthy drapping thick fabric like that over your plants... I wonder what they look like? <ul style="list-style-type: none"> ▪ Patience. I'm sure they'll have to go sunning eventually. <ul style="list-style-type: none"> • You can't just watch a person while they're sunning! <ul style="list-style-type: none"> ○ They're alien-person, not person-person. Just imagine you're watching a tall plant. They have no shame. <p>(PAIRS – EVENT REACTIONS)</p> <ul style="list-style-type: none"> ○ [if player_gave_meat = yes] I heard Plenty asked to try the alien's food. And they gave Plenty... flesh. Cured, cooked flesh. <ul style="list-style-type: none"> ▪ They didn't eat it, did they!? <ul style="list-style-type: none"> • ... I think they were fearful of offending the alien. <ul style="list-style-type: none"> ○ Naturally! I wouldn't want to be next! ○ [if player_admits_hearing_bad = yes] Fairsong told me the alien's hearing is awful... <ul style="list-style-type: none"> ▪ I hear you. Can you imagine screaming infrasound just to talk to someone a valley away?
HOUSING and ARCITECTURE	<ul style="list-style-type: none"> • Internal lighting fixtures (apart from heat lamps) are largely unnecessary. Tortans exploit the fixed position of their star by inserting windows and skylights which directly face the sun, providing a constant, reliable source of light (cloud-cover excluded). <ul style="list-style-type: none"> ○ Mirrors are often placed at precise angles to reflect beams of sunlight from the roofs of habitats down long, narrow shafts and onto desired areas, much like a telescoping device. • High-rise development inevitably brings swaths of complaints as locals in the path of the building raise concerns over the loss of sunlight and their now useless solar panels <ul style="list-style-type: none"> ○ Builders must usually pay settlements, supply internal fixtures, and run power lines into affected neighbourhoods to compensate victims – however, most merely choose locations with no existing infrastructure behind them (an increasingly difficult task as Tortan metropolitan areas expand), or build wide rather than tall (an inversion of the human solution to advanced building)

	<ul style="list-style-type: none"> • Most settlements are built on mountainous inclines, facing the sun, to minimize the impact of their shadows <ul style="list-style-type: none"> ◦ Where this is not possible, cities are 'planned' to consist of long, horizontal lines perpendicular to the sun, with wide spaces between each row to allow all houses optimal sunlight; this leaves residents with ample backyard space, which they decorate with increasingly elaborate rock gardens, plants, vegetables, other forms of produce, etc. which are adapted to subsist on lower, ambient levels of sunlight • All structures are constructed via the real-world "rammed-earth" technique, and then painted red • Solarpunk style: houses are overgrown with plants; roofs are similar to shell-beds, hosting many plants • Open balconies, lots of parks for sunning • Strong emphasis on circles, ovals, etc. to reflect Tortan shell-shape 	<ul style="list-style-type: none"> • Viking-esque style • Hard grey stone on the outside; warm wooden inside • Homes built directly into the ground, sides of mountains, within waterfalls • Strong emphasis on brutalist squares, cubes, triangles, right-angles, etc. to compliment their hardiness, writing aesthetic, and the blunt glaciers of their landscape • Modern settlements have adopted Strip circles in hobbit-like mound housing 	<ul style="list-style-type: none"> • Desert pueblo style • Sand igloos, 'primitive' housing • Plants used not only for decoration, but in construction <ul style="list-style-type: none"> ◦ Circular roofs made of layered ferns • Round communal housing in which each family has their own area, with a middle section (open air) for ceremonies and work
FOOD, WATER, AGRICULTURE	<ul style="list-style-type: none"> • Most people grow their own food, but there are several sharecropping farms and gardens for people to grow plants and vegetables communally • Extensive aqueduct systems threaded throughout cities to manage sharecropping systems and dense vegetation • Massive drainage systems to responsibly reuse and reintegrate water into natural cycles • Systems to filter organic waste and sewage back into communal gardens; also sold by the government as fertilizer <ul style="list-style-type: none"> ◦ However, most people maintain their own compost supplies • Most popular types of food: <ul style="list-style-type: none"> ◦ Grass (like all grass: fresh, 	<ul style="list-style-type: none"> • Fresh water extracted from abundant glacial lakes littered throughout area • Meat-heavy diet consists of fish caught through ice-fishing/vast metal fishing weirs (for coastal/lake-bound communities) or warm-blooded insectoid creatures living on the tundra • Eat on a metal, Japanese-style floor slab • Typically eat only one large meal between their two sleep periods, but have multiple mini-meals throughout the workday • Strong, almost spiritual emphasis on meal-sharing, both as a family and community <ul style="list-style-type: none"> ◦ Chance-based element involved in arctic hunting means that many will go hungry unless successful families share their catch; people give food away knowing that one day their neighbours will return the favour ◦ Has complicated ideas of ownership; food and hunting goods (and most 	<ul style="list-style-type: none"> • Do not eat plants or animals as food




	<p>tasty, and <i>red</i>)</p> <ul style="list-style-type: none"> ○ Salad (pretty much just salad; vines are left uncut and swirled together like spaghetti or ramen noodles) ○ Skewered Plantstuff; fried white chunks made from plant oils and by-products; skewered by sticks and covered in blue sauce ○ Mushbowl; mush from an upturned mushcup ○ Cococabbage: head of red cauliflower with coconut-like shell coated in brown-black powder ○ Sea-leaf soup; broth flavoured with branches of purple-red irish moss; tree vines used as noodles • Most popular drinks: <ul style="list-style-type: none"> ○ Grasswater; bubbly boiled plant drink infused with nectar droplets ○ Hot Fruit Cider; mixed fruits with flowers and boiled nuts ○ Saurup: sloppy, nectar-like extract with the consistency of applesauce; is bottled, harvested from trees like maple syrup 	<p>other things) do not ‘belong’ to individuals, but to everyone</p> <ul style="list-style-type: none"> ○ Offensive to ask ‘permission’ for food ○ As in most aspects of Tortan life, elders still receive first-pickings • While modern infrastructure would allow for the mass production of domesticated Trawler, ‘factory farms’ are practically unheard of; Starside Tortans take special pride in hunting their own food, a sacrifice for the community and on the part of the animal • Most popular types of food: <ul style="list-style-type: none"> ○ Flatcakes: dark pastries made from local black grain; often flavoured with expensive imported nectars ○ Froostroot soup; traditional brown soup made of froostroot (water-based permafrost plant), coppery soil and fish parts ○ Skewered plate-fish; stick of rich fish meat interspersed between less palatable fish parts ○ Moonberry rolls; deep purple berries flecked with red dots, folded into thin flatcakes <ul style="list-style-type: none"> ▪ Called ‘Moonberries’ due to semi-transparent shining shells that light up the tundra in moonlight—makes gathering easier ○ Snow-cured stampede shells; method of preparing stampede innards; meat ices over, becomes popsicle-like; must be cured in an protected area to avoid attracting trawlers ○ Fatballs; concentrated moss chunks dipped in hot stampede oil ○ Ice treat; snow, trawler fat and whipped moonberries • Most popular drinks: <ul style="list-style-type: none"> ○ Fresh water (hydrating!) ○ Mossco; bubbly mead made from distilled arctic mosses ○ Moonberry Wine; non-bubbly alcoholic drink made from distilled moonberry vine ○ Bloodwine; literally domesticated 	
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		trawler blood mixed with moonberry wine, occasionally mossco ○ Brightroot tea; bitter drink made from native froostroot, often flavoured with unbloomed moonflowers (unrelated to moonberries); said to cure vitamin deficiency associated with lack of light	
MANNERS and CONDUCT	<ul style="list-style-type: none"> • Attitude towards displaying emotion <ul style="list-style-type: none"> ○ Extravagant displays of emotion are not exactly discouraged, but are a clear mark of youth, which is not valued; elders tend to be far more stoic and composed • Facial expressions <ul style="list-style-type: none"> ○ EXCITED: Mouth open, tongue visible, brows raised ○ HAPPY/CONTENT: Tongue hangs/bleps out at corner of mouth ○ ANGRY: Brows tense, ear flaps flare out ○ SAD: Face scrunches up, eyes close ○ ANNOYED: Ear flaps deflate, brows depress to partially cover eyes ○ JEALOUS: Nostrils flare, brows raise ○ DETERMINED: Brows furrow, flare in parietal eye ○ LYING: Lower lip pursed, Eyes look up towards sky (STRIP, away from ground; STAR, up to sky for guidance) ○ NERVOUS/EMBARRASSED: stick their head underneath their arms or raise their arms over their face; a literal way of “saving face” ○ SHY/DEJECTED: Discolouration in head indent <ul style="list-style-type: none"> ▪ Could be marker of low self-esteem, indication that player should appeal to ego • Eye contact <ul style="list-style-type: none"> ○ STRIP: Lack of eye contact = sign of deference to elders, indicating respect ○ Taboo among far-desert Sunside inhabitants; emphasis on sound as long-distance communication makes facial expressions and eye contact intensely intimate and (if done without consent) threatening, like looking a gorilla in the eyes ○ Not much issue for player given helmet • Body language <ul style="list-style-type: none"> ○ Tongue sticks out as a greeting or goodbye ○ To express extreme nervousness or embarrassment, Tortans stick their head underneath their arms or raise their arms over their face; a literal way of “saving face” • Personal space <ul style="list-style-type: none"> ○ Elders must be given a wide berth as a sign of respect (their movement is more important than yours) ○ People sensitive about touching each others flowers; equivalent to running your fingers through someone’s hair, across their scalp <ul style="list-style-type: none"> ▪ Makes planting an intimate act performed only by a mother, a partner, or a certified planter; the strange intimacy of dyeing someone’s hair ○ Extremely taboo to touch someone’s reproductive flower or stick fingers into their flower bed without their consent; equivalent to sexual assault • Age-Based Manners <ul style="list-style-type: none"> ○ Are essential; it is disrespectful, embarrassing and socially insensitive to ignore or disrespect 		

	<p>someone older than you</p> <ul style="list-style-type: none"> ▪ An elder has more life and experience, has taken root in the earth, has a greater stake in the motions of the world ○ Many Japanese-like honorifics to denote the age-authority relationship between two people 	
TITLES and HONORIFICS	<p>NOTE: Tortans are often overjoyed to hear that their conversation partner is the same age – they'll smile, stick out their tongues, shake their shells, etc.; means they can speak freely and comfortably to people of the same age, without risk of offending</p> <ul style="list-style-type: none"> • Confined almost entirely to age; not many honorifics associated with occupation, except for those which require age to attain (mainly political roles) • Titles Denoting Youth: <ul style="list-style-type: none"> ○ Specific Age Groups: (often applied insultingly by elders to emphasize age difference) <ul style="list-style-type: none"> ▪ Bud (fetus/seed) ▪ Seedling (planted bud) ▪ Sprout (infant-toddler) ▪ Shoot (young child) ▪ Stalk (mid-adolescent) ▪ Bract (late-adolescent; entering reproductive age) ▪ Flower (young adult; after first flowering) ▪ Full-Grown (adult; begins after passing one era (86 Earth years) lasts until middle-aged) ○ Floret (a group of sprouts all produced from the flowering of a single parent; increasingly rare) ○ Offshoot (a new 'branch' of the family; used to refer to one's children having children of their own) 	<ul style="list-style-type: none"> • Due to distance (and inability to determine age), honorifics play a more diminished role – status derives from what you have to say, not who is saying it

	<ul style="list-style-type: none"> ○ Runner (someone who wants to go somewhere new, stray from convention) ● Titles Denoting Age or Respect: <ul style="list-style-type: none"> ○ <u>Middle Aged:</u> <ul style="list-style-type: none"> ▪ Senior ▪ Aged ▪ Mature ○ <u>Elderly:</u> (more than one used to denote incredible age or respect) <ul style="list-style-type: none"> ▪ Elder ▪ Ancient ▪ Venerable ▪ Grizzled ▪ Hoary ▪ Timeworn ▪ Antique ▪ Superannuated ▪ Anile ▪ Senescent ▪ Primeval ▪ Primordial ▪ Archaic ▪ First-born (to refer to someone who was literally born <i>first</i>) ● General and Positive Colloquialisms: <ul style="list-style-type: none"> ○ Behind / Slow (one is measured, considerate, not wanting to rush forward; the respected slowness of age) ○ Low-down, dirty, grounded (close to the earth, healthy, vital, not disconnected in their ideals and relationships) ○ Thick-hulled (thick-skinned; someone tough, hardy) <ul style="list-style-type: none"> ▪ ‘thick-shelled’ would be an innaccurate metaphor given the soft and fertile quality of Tortan shells ○ Taproot (someone with roots firmly in the soil; down to earth) ○ Cutting (noun and verb; a person leaving their home to start a family in another community) ● Negative Colloquialisms: <ul style="list-style-type: none"> ○ Forward, in-front, ahead (rash, inconsiderate, rushing forward when it is not prudent; the foolishness of youth) ○ Up high / stemless / rootless (far from the earth, foolish, unreasonably idealistic, pretentious) <ul style="list-style-type: none"> ▪ NOTE: These connotations are not as obvious to Starsiders, who conceptualize the stars as the ‘highest’ possible good; still can be used as insults, but highly dependent on context ▪ “Xenopsychologists also recognize the close association between human language and human body form. Extraterrestrials will speak, think, act, and feel differently simply because they have some other body shape and thus experience a markedly different awareness of space, position, and movement. The human body is basically bilaterally symmetric, with the upright posture universally regarded as typical. According to psychologist Donald G. MacRae, our categories for classifying, organizing, and manipulating space, and our emotions about space and the values we attach to direction in space, derive directly from our body form. Explains 	
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	<p>MacRae: "What is superior is up or high and what is inferior is down or low. Low is often dirty, but high is not necessarily clean. Right is law, morals. the holy and the strong; left is sinister, profane, weak and (often) feminine. Backward and behind are slow, hence stupid. Forward and in front are active, oriented and intelligent. Beside is confederate or paranoid: It is an ambiguous category of place. What is clear is that these aspects of space derive from our conception of the body and would not hold for an intelligent bilateral but horizontal animal, far less for a radially symmetrical one like a clever starfish, or for spherically symmetrical beings like those of the fable in Plato's Symposium."</p> <ul style="list-style-type: none"> ○ Tendril (dependent; not self-sufficient; clings to others) ○ Tuber (someone with their head in the dirt; ignorant) <ul style="list-style-type: none"> ▪ Earth associations usually complementary, but 'Tuber' suggests an excess, a lack of balance ○ Thorn / Barb / Burr (an annoyance; a subversive troublemaker) ○ Offensive Adjectives to Refer to Old People: <ul style="list-style-type: none"> ▪ Dotard ▪ Doddering ▪ Decaying ▪ Decrepit ▪ Worn ▪ Obsolete ▪ Enfeebled ▪ Anemic ▪ Grave-footed ○ Strip names for Starsiders: <ul style="list-style-type: none"> ▪ Shadow People ▪ Dark ▪ Stem 		
CULTURAL QUIRKS/ PHRASES	<ul style="list-style-type: none"> • Brightness = ultimate good • Shadows = negative; strong superstitions about two people crossing shadows, sitting beneath a double-shadow 	<ul style="list-style-type: none"> • Dark = positive, Light = negative; only in darkness can one see the stars; suggestion that darkness is the key to guiding insight, connection with something higher; only through absence does substance reveal itself 	<ul style="list-style-type: none"> • Almost religious about self-reflection and responsibility – believe you need to stare "straight into the sun," at the unlooked-upon thing forever hanging above you
COMMUNICATION	<ul style="list-style-type: none"> • Sphere of communication is much wider; Rayleigh waves allow neighbours to conduct conversations through their own walls; instead of going to see what plants are available in the market, people can simply call to the clerk from a few blocks away • Tortan vocal chords are not strong enough to amplify Rayleigh waves through heavily forested or urban areas, necessitating the use of <u>Rayleigh Amplifiers</u>—loudspeakers directed towards the ground, used by the local government to communicate public announcements • Radio used as an alternative to Rayleigh waves: able to transmit sound over exceptionally long distances without sound pollution; <ul style="list-style-type: none"> ○ How It Works: radio waves transmit information, the radio interprets those frequencies, and then those frequencies 		<ul style="list-style-type: none"> • Exclusively Rayleigh-based

	are converted to the inaudible sound waves that Tortans hear via infrasonic speaker		
LANGUAGE AND WRITING	<ul style="list-style-type: none">• All Tortan languages are tonal; like Mandarin, the same sound may denote many different meanings depending on its tone (low, medium, high) and its length (short, long)• Languages are also highly contextual; the same combination of sounds (what we might call a ‘word’) may have upwards of a dozen different meanings depending on the words it is surrounded by<ul style="list-style-type: none">◦ Almost all English words follow this principle, but not to the same extent (e.g. ‘right’ is somehow both a horizontal direction and a statement of morals; ‘rain’ and ‘reign’ sound the same yet infer very different meanings based on the context)		
	<p>STRIPSCRIPT</p> <ul style="list-style-type: none">• Speech is full of exaggeration, metaphor and aphorism<ul style="list-style-type: none">◦ Reflected in the natural flow of their written characters, ornate crescents and circles• Sentences consist of vertical lines read from <u>right to left</u> and <u>top to bottom</u> (like falling leaves)• Alphabet consists of 28 characters / notes and 4 different hooks / flowing additions• Characters are presented in pairs which produce different sounds depending on their vertical orientation to one another:<ul style="list-style-type: none">◦ RESONANT ◦ DISSONANT ◦ FLOWING • A isolated character cannot convey meaning on its own—it must be combined with another; all lines of Strip are therefore comprised of an even amount of characters (2, 4, 6, 8, 10, etc.)• The four hooks / flowing additions represent a subtle tonal shift in a given note pair which indicate a thought	<p>RUNESTAMP</p> <ul style="list-style-type: none">• Unlike the ornamentation of Strip speech, the Starside language is very literal, following logical patterns and lacking any nested clauses<ul style="list-style-type: none">◦ Also lacks aphorism, metaphor and simile (at least compared to Strip)• Alphabet consists 48 notes and 4 directional indicators which are assembled into 3X3 squares or ‘stamps’• Each stamp conveys a single thought or clause communicated in a single breath• Directional characters in middle of the stamp indicate which character should be read first (top-middle or bottom-middle) and which direction the rest of the characters should be read in (clockwise or counter-clockwise)<ul style="list-style-type: none">◦ Meaning of each stamp may be wildly different depending on its order• The alphabet’s 48 different notes are actually represented by only 18 symbols rotated at different angles<ul style="list-style-type: none">◦ Done for convenience; historically, official letters, decrees and histories were written via ornate square	<p>SUNSPEECH</p> <ul style="list-style-type: none">• Entirely spoken; no written language• Isolationist nature means there are no pronouns other than the personal first person (I, me, mine)<ul style="list-style-type: none">◦ The human “we” would translate to “I and those around I”◦ “them” would translate to “those who are not I”• Sounds tend towards the lower end of the Rayleigh spectrum to facilitate long-distance communication over the desert (low, powerful sounds propagate better through the earth)• Isolation has produced many different but still mutually intelligible dialects• Aphorisms and imagery, are almost all sun-based given the centrality it has in their lives• ANCIENT SUNSCRIPT present on old monuments, statues

	<p>within another thought</p> <ul style="list-style-type: none"> ○ Effectively the Tortan version of a comma indicating nested clauses; the more nested clauses, the more fanciful the speech ○ Different hooks are used to indicate both the beginning/ending of a nested clause, and the type of clause: whether it is modifying what's being said, or is purely additive <ul style="list-style-type: none"> • SIX TENSES: <ul style="list-style-type: none"> ○ Future (I will walk) ○ Present (I walk) ○ Today Past (I did walk) ○ Recent Past (I walked) ○ Remote Past (I had once walked) ○ Historical Past (They had once walked) <ul style="list-style-type: none"> ▪ Used when referring to ancestors • NAMES: represented horizontally, in a single line, jutting out from strip 	<p>stamps as a measure of the wealth of the community and the importance they placed on authority and the work of scribes; however, it was rather impractical—rotating the stamps was an obvious way to expand the written vocabulary while not making the stamping process any more cumbersome</p> <ul style="list-style-type: none"> ▪ In the modern era, most people write using more practical graphite pens, but the square aesthetic remains ▪ Former stamp use may also lie in stories of mythological figures using larvel ink to create prints, commandment s (SEE MYTH) <ul style="list-style-type: none"> • The 48 different notes can be further divided up into 8 basic tone which can each be spoken at a low/medium/high frequency for either a short or long stress <ul style="list-style-type: none"> ○ Ideas that are more fundamental (food, water, family) use tones 1-4; ideas that are more complex and abstract use tones 5-8 (literally “higher” speech) • Shape of each character 	
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		<p>indicates its tone:</p> <ul style="list-style-type: none"> ○ The more space a character has inside of it, the lower it is ○ U and backwards C = short sounds ○ C and upside-down U = long sounds <ul style="list-style-type: none"> • NAMES: normal 3x3 stamps, but without a directional indicator in the middle; all names are Bottom+Clockwise in orientation 	
NUMERALS	<ul style="list-style-type: none"> • Adopted from Starside numerals; virtually identical except for some aesthetic differences to complement the pleasant, rounded crescents of their own script 	<ul style="list-style-type: none"> • Invented major numeral system (“Starside Numerals”) • Base 8 system of 1-8; while they have a concept of 0, it is not incorporated into their system • Numbers are indicated by the tones, going from lowest tone (1) to highest (8), but with the tongue obscuring the front of the mouth, to create a different sound unique to numbers • RULES: <ul style="list-style-type: none"> ○ Every number over 8 contains within it the processes of addition or multiplication necessary to create it, e.g.: <ul style="list-style-type: none"> ▪ The Tortan ‘14’ is literally translated as ‘8 + 6’ ▪ ‘82’ is translated as ‘8 x 10 + 2’ <div> </div> <ul style="list-style-type: none"> ○ Numbers below the main 8 square = to be 	<ul style="list-style-type: none"> • lol numbers???

		<p>added and then multiplied by the main square</p> <ul style="list-style-type: none"> ○ Numbers to the right of the main 8 square = to be added after multiplication of all other numbers 	
SOCIETY: GENERAL	<p>STRIP</p> <ul style="list-style-type: none"> • Large, hierarchical, bureaucratic nation divided into dozens of provinces each with limited regional authority • Governance driven by ageism and conservative environmentalism • Intense respect for all life processes leading to a strong aversion to change and a philosophy of in-betweenness <ul style="list-style-type: none"> ○ Feel that the world is already in balance, and any new technologies or ideas may threaten to disrupt natural systems ○ Fear of straying to any extreme, hot or cold, likely derived from the harsh conditions of their world: see 'PHILOSOPHY' for details 	<p>STARSIDE AND SUNSIDE</p> <ul style="list-style-type: none"> • Anarchical, self-determined; can be divided up into a great number of independent townships and states, reliant on one another through trade and a shared sense of cultural identity / responsibility over the land which they inhabit 	
POLITICS and GOVERNING	<ul style="list-style-type: none"> • Boundaries of each 'bioregional' province are vague and permeable, dictated by: <ul style="list-style-type: none"> ○ Biotic shift / species distribution <ul style="list-style-type: none"> ▪ If 25% of species in one area are different from those in another, they are likely different regions ○ Watersheds / river drainage ○ Topography; land forms usually create (or are created by) watersheds ○ Psyche-tuning power presences; defining landmarks or environmental 	<ul style="list-style-type: none"> • Inaccessibility of different locales means the land is divided up into 'mantles'; small, locally governed enclaves whose laws and customs are uniquely suited to the specific area which they inhabit (though most follow a tribal structure with each settlement lead by chieftains or mayors) • Starside invention of radio <i>several hundred years ago</i> connected communities, allowing them to form a collective identity • Shared sense of community is embodied by a once elected but now aristocratic group assembled to represent each mantle's interests abroad: The Constellation 	<ul style="list-style-type: none"> • Lol politics???


	<p>conditions which give one a deep sense of place, a sense of the physical force of the land</p> <ul style="list-style-type: none"> • Each bioregional province is headed by an elected official (almost always the eldest in the community) and a ruling council of other ‘democratically elected’ elders similar in age <ul style="list-style-type: none"> ○ While theoretically anyone can run for office, there is a cultural assumption that elders know best; have the experience to make judgements necessary for the good of the community; a paternalistic ethos ○ Negligible senescence means that Tortan minds are not often subject to decay by aging alone • Provincial leaders (or members of their regional council, acting as a walking embodiment of ‘the age of the leader’) travel to the capital via waterway whenever an issue is raised via radio • Legislative sessions are only convened when necessary—change is not a constant element of government, but a notable event for lively debate • Legislative sessions can last for weeks on end; if not resolved, they are tabled until the next session (whenever that may be); no one wants to make a rash decision before the problem can be examined from every possible angle <ul style="list-style-type: none"> ○ Officials feel their responsibility is not to the people of the present, but to the land itself and those of future generations; do not want to be remembered as an over-eager sprout ○ Problem exacerbated by the lack of parties; rule is not 	<ul style="list-style-type: none"> ○ Named for image which owes its existence to its constituent parts ○ Members were originally elected by virtue of their age, authority, standing, and capability—usually these were lawspeakers <ul style="list-style-type: none"> • Over time, the Constellation became a hold unto itself; isolated, its members flowered to create a new family unit—the physical embodiment of a symbolic commitment to peace and unity • As an impartial third party, the Constellation took on more responsibilities as their family grew, having the final say in disputes of law and trade which could not be solved locally • In the modern era, their duties include: <ul style="list-style-type: none"> ○ Arbitration on legal issues between mantles ○ Regulation of foreign trade ○ Production of bismuth currency ○ Tax collection ○ Administration of social services ○ Management of communal infrastructure and transit systems • Unlike a typical government, they do not: <ul style="list-style-type: none"> ○ Command an army ○ Own or manage land ○ Enforce laws ○ Incarcerate criminals • Problems with this type of government: <ul style="list-style-type: none"> ○ Susceptible to bribes / favouritism of certain holds ○ Static and old-fashioned; the same people have been in power for hundreds of years, ○ Unable to ensure their edicts 	
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	<p>dictated by the majority, but by consensus – everyone <i>must</i> agree on a course of action for change to occur, otherwise it is clearly not time for change</p> <ul style="list-style-type: none"> • Name for the legislature = the FROND; a single stem with dozens of leaves; a whole divided into many parts • Leader is the SEQUOIA, a presidential figure elected by the members of the Frond every half-era, responsible for: <ul style="list-style-type: none"> ○ Convening and presiding over the legislature ○ Managing the capital bioregion ○ Conducting foreign affairs 	<p>are actually being followed</p> <ul style="list-style-type: none"> ○ Unable to govern each hold's internal matters, allowing for localised abuse and injustice 	
LAW and AUTHORITY	<ul style="list-style-type: none"> • Organized, standing police force in which officers (usually elders) police their own communities • Called 'Judgers'; at first sounds a little silly and transparently bad until you realise that our law system is presided over by 'judges' • Very informal; officers are not meant to be imposing, as their age gives them all the authority they need; a young officer would likely be unable to command the necessary respect to perform the role without threat of violence • Punishments are usually indentured labour or community-service-based <ul style="list-style-type: none"> ○ e.g. Person convicted of stealing from a sharecropper would likely have to work there, planting their own crops so they can understand what its like to have them stolen ○ e.g. Person convicted of third-degree murder would have to work for the family of the deceased for a set period ○ Worst punishments are usually exile to the Sunward 	<ul style="list-style-type: none"> • Historically, law system was based on feuding – an eye-for-an-eye policy in which families personally sought revenge or compensation for perceived wrongs • The 'Starsummit' developed as a way of managing feuds, striving for peace and order in the community <ul style="list-style-type: none"> ○ In Runestamp, the word 'Star' is associated with the highest possible good, the 'guiding light' one follows in pursuit of righteousness; a star's summit is therefore the closest one can get to divinity, divine justice • Summit is presided over by a lawspeaker or 'speaker of stars'—a symbolic embodiment of the star as highest good—who memorizes and recites the law <ul style="list-style-type: none"> ○ Sits on a 'star,' a high stone covered in rune stamps ○ Must be able to generate exceptionally strong Rayleigh waves through their seat-stone to ensure everyone in attendance (and far beyond) can hear them 	<ul style="list-style-type: none"> • Possies assembled by local leaders on a case-by-case basis, though standard punishment is what most criminals actively seek in avoidance of retribution: exile to the desert

	<p>side, either to die (as with the Starside 'exile-by-ice) or to a settlement (similar to Earth's Australian colonies)</p>	<ul style="list-style-type: none">• Summit grounds are usually located near historical burial mounds, sky-burial sites, or close to communication routes (roads, rivers) so everyone can easily arrive• Not explicitly democratic, but built around ideas of neutrality and representation; anyone can put their case forward for deliberation<ul style="list-style-type: none">○ Types of issues dealt with: general conflict resolution, court cases, criminal judgements, lawmaking, fine-setting, tax collection• Summit-issued punishments are typically acts of penance or embarrassment, exile to another settlement, or (in severe cases) exposure—an exile by ice<ul style="list-style-type: none">○ Condemned is escorted to the top of the glacier and forced into the dark, left to quickly freeze naked and alone<ul style="list-style-type: none">▪ Many myths and horror stories about exiles, people trapped in an eternal hibernation• If an agreement cannot be reached locally, a regional summit is convened via radio; if no consensus is found, issues are brought to the national summit every 64th moon• Constellation summits are large migratory events in which delegations from each mantle set camp around the capital to:<ul style="list-style-type: none">○ Hear arbitration from the Constellation on contested legal issues○ Determine tax rates for each mantle based on their use of social services○ Debate public infrastructure projects (roads, rail systems)○ Convey wishes regarding	
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		Constellation-negotiated trade deals with the Strip	
TRANSPORTATION	<ul style="list-style-type: none"> Travel to different geographic / climate regions requires pre-emptive implantation of new climate-adapted plants; see 'PLANT-BODY MODIFICATION' for details 		
	<ul style="list-style-type: none"> Forestoris, Torisborge Riverboats Rail 	<ul style="list-style-type: none"> Trawler-pulled sleds Tri-Rail Sub-Snow system (colloqually referred to as '<u>the Trail</u>' or 'Tri-Rail'); a publicly-funded high-speed rail system which stretches across the continent, connecting each mantle <ul style="list-style-type: none"> Above-ground; trains are sheltered by a heated metal casing, pointed in the middle to prevent snow build-up; essentially a long triangular prism Schedules of all three rails determined by their role: 1. Public Transportation; 2. Shipping and Trade; 3. Emergency (medical transport, aid from other mantles) 	<ul style="list-style-type: none"> Wooshi caravans; sheep-like creatures used as pack animals for transporting goods; people travel alongside them by foot
COMMERCE and TRADE	<ul style="list-style-type: none"> COMMODITY-BASED MONETARY SYSTEM: Strip and Star civilizations both issue cut strips of crystalized, oxidized bismuth as a currency of intrinsic value (i.e. the currency is not 'backed by' or representative of something else; if melted down, it retains its value) <ul style="list-style-type: none"> While gold, silver, copper and platinum exist in abundance near the surface of the Earth, Triune has very few metals available near the surface in their 'native' or pure metallic forms; the sole exception to this is bismuth Due to the lack of gas giants in the outer solar system, Triune and the other rocky planets are subject to constant meteorite impacts; by chance, an overwhelming amount of these are heavy in native bismuth, bismuthinite and bismite Since ancient times, Tortans have valued bismuth as a commodity, both for its relative abundance and for the beauty of its crystalized form <ul style="list-style-type: none"> Many pieces of Tortan jewelry are either made of bismuth or feature its rainbow colouring (a motif common to Tortan clothing as well) Player can mine bismuth and have it minted for a fee 'Flat' currency does exist in the form of Family Accounts through the Community Trust (basically a bank) which stores bismuth in bulk <ul style="list-style-type: none"> New discovery of Bismuth causes occasional inflation, leading to greater reliance on Community Trusts as it becomes unreasonable to carry bismuth around; credit is a new but necessary invention (by Tortan standards) INTERNATIONAL TRADE <ul style="list-style-type: none"> Harsh regulation on the shipment of natural goods such as animals, plants, resources, etc. to prevent invasive species and ecological exploitation Market instead revolves around tools, technology and cultural exports 		
	<ul style="list-style-type: none"> Dominated by hierarchical, bureaucratic, government subsidized employee-owned businesses Majority of wealth resides with the old, almost always leaders of clans who help to 	<ul style="list-style-type: none"> Difficulty of commerce between different mantles historically limited, done via Trawler caravans In recent times, trade is expedited by rail system Economy driven mostly by 	<ul style="list-style-type: none"> Simple barter system, though trade is more common in communities closer to the strip EXPORTS: <ul style="list-style-type: none"> Wooshi wool Ceramic pottery

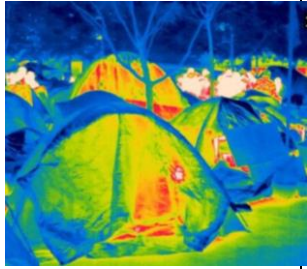
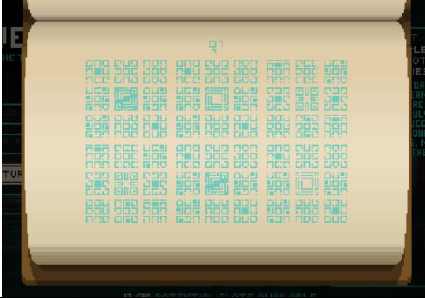
	<p>provide for their families (often by getting them jobs in their businesses)</p> <ul style="list-style-type: none"> ○ Extended lifespans means extended opportunities to accrue status, respect, and therefore wealth <ul style="list-style-type: none"> • EXPORTS: <ul style="list-style-type: none"> ○ Biodegradable polymers ○ Music; recordings of Sunside songs (taken without permission) are popular ○ Paper-printed books (much cheaper to print than the tree-bare Starside, where wood is reserved primarily for building material) ○ Plant foods (on a limited basis, usually heat-adapted plants which cannot grow in the cold) ○ Old-growth wood (illegal, a high crime to harvest without special dispensation) ○ Solar / Photosynthetic Energy 	<p>trade of natural resources and technology rather than consumer goods</p> <ul style="list-style-type: none"> • Machines of convenience (cooking/cleaning/heating, etc.) are bought and shared communally • EXPORTS: <ul style="list-style-type: none"> ○ Hibernation insulation ○ Transparent wood ○ Indoor heating ○ Artificial lighting ○ Fabrics, textiles ○ Clocks, calendars ○ Radios ○ Trains and rail systems ○ (ILLEGAL) Seeds of hardy plants adapted to grow in their darker environment; typically planted in perpetually shadowed areas of the Strip 	<ul style="list-style-type: none"> ○ Music (usually sold through STRIP ‘researchers’) ○ Plant foods such as Blue Sun’s Bulb and Fanbrush (on a limited basis, mostly those which cannot grow in wet soil)
POWER AND INDUSTRY	<ul style="list-style-type: none"> • WASTE: <ul style="list-style-type: none"> ○ While Tortans regularly employ fire in metallurgy and construction, the production of metal waste is practically unheard of in all known Tortan cultures, reflecting their biological reliance on renewable energy and the resulting emphasis on balance in nature ○ Plastics are limited and biodegradable, usually constructed using plant fibres 		
	<p>STRIP</p> <ul style="list-style-type: none"> • SOLAR POWER: <ul style="list-style-type: none"> ○ Natural photosynthesis and reliance on the sun inspired development of rudimentary solar power and steam-based forms of energy production 	<p>STARSIDE</p> <ul style="list-style-type: none"> • HYDROELECTRICITY: <ul style="list-style-type: none"> ○ Dams which exploit the region’s abundance of rivers and waterfalls ○ Dual purpose – also used to collect fresh glacier and mountain water ○ Earliest dams caused severe reduction of 	

	<ul style="list-style-type: none">○ By the time combustion of fossil fuels, it was comparatively inefficient to burn coals and other fossil fuels, notwithstanding their obvious impact on the environment● BIOMIMICRY OF PHOTOSYNTHESIS:<ul style="list-style-type: none">○ Isolated power grids often driven by artificial systems mimicking the ability of plants to split water, producing hydrogen fuel and biofuels such as methane○ Such devices stretch back hundreds of years in use○ Common method = 'GREEN-VATS,' where containers of sea water filled with algae enact an endosymbiosis with sea leaves, consume the algae chloroplasts for photosynthesis in a process terrestrially called 'kleptoplasty'	<p>platefish; while populations have recovered after the implementation of fish doors, dam construction has become a highly controversial issue</p> <ul style="list-style-type: none">○ Has led to more waterfall-based energy generation (less destructive to local ecosystems, limits artificial flooding)● NUCLEAR POWER:<ul style="list-style-type: none">○ In extremely early stages; reports of cancer developing in rural communities enlisted to mine uranium from below the ice
FORESTRY	<ul style="list-style-type: none">● Deep respect for trees as independent beings forbids the casual clear-cutting common on Earth:<ul style="list-style-type: none">○ Trees are planted in soil artificially saturated in nutrients (often corpses), then pruned heavily to produce straight, uniform, knot-free shoots for use as lumber○ Shoots carefully pruned by hand every two years leaving only the top boughs○ Harvesting takes nearly 1000 Tortan weeks, but old 'tree stock' can produce more than 100 shoots at a time<ul style="list-style-type: none">○ Harvested lumber is 140% as flexible, and 200% as dense; makes for strong, perfectly straight lumber perfect for rafters and roof timber● Tortan windows are also made of wood<ul style="list-style-type: none">○ Trees are cut, oxidized in a special bleach bath and then penetrated with a biodegradable polymer. This plastic-like glass....<ul style="list-style-type: none">▪ Lets natural light into homes without sacrificing heat (normal glass is a terrible insulator)▪ Can withstand impacts much better; tends to bend and splinter instead of shattering into pieces	
MEDICINE	<ul style="list-style-type: none">● Very weak understanding of	<ul style="list-style-type: none">● Highly developed social● In towns, people rely

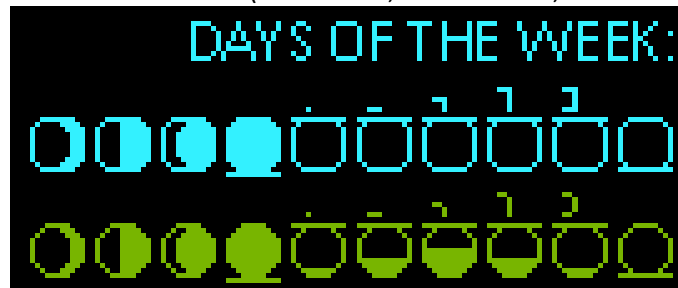
	<p>medicine compared to Earth and Starside doctors (which richer and older Strip citizens seek out)</p> <ul style="list-style-type: none"> • Medicine is carried out by individual practitioners via implantation: integrating new plants into a Tortan's shell bed for their perceived medical benefits 	<p>infrastructure in large cities, available to all Constellation communities</p> <ul style="list-style-type: none"> • Third rail of Starside rail system hosts mobile clinics for emergency medical transport to larger cities, shipping of sensitive supplies • Communities usually have one or two planters/healers per settlement • Due to most medicinal plants being local to warmer areas with more biodiversity, Starsiders have had to forgo many traditional planting remedies in favour of unconventional forms of medicine, namely oral supplements and physical surgeries, treating bodily issues at the source rather than through the shell-bed • Training conducted at Constellation capital 	<p>mostly on trusted local planters</p> <ul style="list-style-type: none"> • Ascetics usually abstain from medical advice of any kind; they plant their own plants, insisting their lifestyle is a more 'pure' way to live — that disease is a symptom of modern civilization
IMPLANTATION or PLANT-BODY MODIFICATION	<ul style="list-style-type: none"> • A planter's job is to balance their patient's local ecosystem—pruning, culling weeds, and introducing new plants for the health and continuance of the shell-bed—a delicate act which requires keen judgement as to the impact of each change upon the whole. <ul style="list-style-type: none"> ○ <u>A Planter's Ethos:</u> <ol style="list-style-type: none"> 1.1 I am a planter for the body of the earth, and the earth that is the body. 1.2 For every plant pruned and culled, for each lain upon the bed in faith, the health of the body is my spirit's only goal. • Possible Planting Dangers: <ul style="list-style-type: none"> ○ Weeds: most can be removed by clan members, but others must be extracted by a planter ○ Toxic Aesthetic Plants: can excessively soak up nutrients, killing an entire shell-bed; a source of major scandals among plant-breeders ○ Allergies: some plants cannot 'take' in certain shell-beds ○ Parasitic plants disguised as more commonly used plants: leech nutrients from Tortan body while withholding photosynthetic energy; allows for rapid reproduction and transmission to new host • Types of Shell-Beds and What They Say About You: <ul style="list-style-type: none"> ○ Full-Grown Trees (pruned to be bonsai-like) = wise, strong, enduring, patient, unchanging ○ Shallow Garden = impatient, flighty, superficial, impulsive ○ Fruit Plants = generous, motherly, a provider 		

	<ul style="list-style-type: none"> <ul style="list-style-type: none"> ▪ Taboo to eat own fruit (and pointless—wasting energy to create energy), but perfectly reasonable for new parents to grow for their children; similar to attitudes on human breastmilk ○ Sparse Coverage = dull, simple, unintelligent, without personality <ul style="list-style-type: none"> ▪ Stereotype often levied against Starsiders for their inability to sustain large plants ○ Leafy Plants and Bushes = inaccessible, mysterious, complex, putting up a front ○ Overgrown = wild, unpredictable, unkempt; also likely to host psychedelic plants ○ Miscellaneous Trees, Flowers, Ferns = practical, well-adjusted; a normal person ○ Wildly Diverse, Colourful Plants = worldly, well-traveled, attention-seeking <ul style="list-style-type: none"> ▪ Travel to different geographic / climate regions requires pre-emptive implantation of new climate-adapted plants, as a lack of seasonal variation has made plants extremely sensitive to temperature; comparable to human inoculation against different viruses when visiting a different country ○ Succulents and Desert Plants = conservative, cautious, frugal <ul style="list-style-type: none"> ▪ Barbed Plants = guarded, closed-off (hedgehog syndrome) ○ Cultivated to Showcase Reproductive Flower = sexual deviancy; practiced amongst Sunsiders as a mating ritual
	<ul style="list-style-type: none"> • List of Medicinal Implants: <ul style="list-style-type: none"> ○ <i>Crimson Mother</i>: painkiller; most effective against neck pain <ul style="list-style-type: none"> ▪ ‘Crimson’ as a translation for the brightest, warmest colour in the Tortan visual spectrum ○ <i>Seedling’s Prayer</i>: plant bred for ideal Tortan reproductive ‘flowering’ <ul style="list-style-type: none"> ▪ Increases chances of successful pollination and healthy bud production ○ <i>Tide of Buried Moon</i>: poisonous, immune-compromising plant designed to flush out ‘toxins’ <ul style="list-style-type: none"> ▪ Used liberally on Strip, and as a last resort by Starsiders for treatment of cancers which cannot be removed surgically ○ <i>Sun’s Embrace</i>: antidepressant; long-term mood supplement <ul style="list-style-type: none"> ▪ Small but potent flower which can be propagated as needed ○ <i>Earthsbane</i>: resource-intensive plant; soaks up nutrient waste from the surrounding soil <ul style="list-style-type: none"> ▪ Treatment for soil oversaturation threatening health of system ○ <i>Quietus</i> (also referred to as <i>Dull Sun’s Shroud</i> in its wild form): sleeping supplement; used to mitigate hibernation difficulties such as early rising <ul style="list-style-type: none"> ▪ Rarely implanted outside of a sunspot—would make the holder perpetually sleepy ○ <i>Planter’s Tongue</i>: cleansing laxative-like plant; releases built-up nutrients <ul style="list-style-type: none"> ▪ Commonly used as a solution for dry, nutrient-deficient soil; deep penetrating roots clear up blockages and deposits from the bottom of the shell-bed ○ <i>Speaker’s Judgement</i>: carnivorous plant; attracts and consumes parasitic insects from the soil <ul style="list-style-type: none"> ▪ From Starside; distribution in Strip restricted due to potential environmental impact ▪ Holder must be in a cold environment for the duration of its use ○ <i>Wandering Sage</i> (colloquially known as <i>Sunshine</i>): psychedelic desert plant; reportedly causes visions, low level euphoria <ul style="list-style-type: none"> ▪ While effects take some time to manifest, they persist long after removal of the plant; dangerous to experiment with ▪ Most often used by Sunside ascetics to enhance their experience of the ‘Spirit’ ○ <i>Abiding Light-Spirit-Breath</i>: high yield oxygen-producing plant; aids in respiration <ul style="list-style-type: none"> ▪ Has great religious significance as a conduit for light, which mainland Tortans conceptualize as an ever-present ‘Spirit’ animating all creatures, giving them breath ▪ Ubiquitous plant; often the first implanted in a young sprout

	<ul style="list-style-type: none"> ▪ Bred over countless generations to increase efficiency of photosyntheses; accomplished by manipulation of enzymes responsible for CO₂ uptake ○ <i>Bismite Stones</i>: homeopathic stones said to produce 'protective' magnetic fields of the kind protecting the planet from the sun ▪ Implanted in the deepest layers of the shell bed ▪ Particularly popular on the Strip, where 'lucky coins' are considered a blessing ▪ A source of chagrin for planters; makes implantation of actual medicine more difficult 		
EDUCATION	<ul style="list-style-type: none"> • Homeschooling conducted by elders within the clan; no formalized education outside of specific guilds • Richer clans can afford more formalized tutoring from leading academics (reminiscent of education in the Ancient Western world, Greece; Aristotle, Socrates) 	<ul style="list-style-type: none"> • Trade-based apprenticeships • Intense specialization similar to human post-secondary school • Early-life education limited to reading, writing and basic arithmetic <ul style="list-style-type: none"> ○ Typically conducted at home, but in some communities through tutorship by 'Lightspeakers' 	<ul style="list-style-type: none"> • Philosophy of 'learning from the land' itself; desert is seen as a personified teacher, instructing through struggle • Believe civilization and formalized education is impractical
ASTRONOMY	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Lightspeakers: special shamanistic astronomers common to many communities • Were historically responsible for: <ul style="list-style-type: none"> ○ Performing divination and dream interpretation ○ Tracking and interpreting the movements of the stars ○ Predicting eclipses, movements of the planets, etc. ○ Recording and telling stories of the mantle through constellations ○ Making formal records of their predictions using the same archaic academic language as Lawspeakers (similar to the terrestrial Latin) which later became the basis of the modern Starside writing system: Runestamp • In the modern era, their role is more instructional and academic, either tutoring orally or conducting actual astronomical research at remote institutions socially sponsored by Constellation <ul style="list-style-type: none"> ○ Astronomer character is a visiting academic at one of these institutions 	<ul style="list-style-type: none"> • N/A
ART, MUSIC and LITERATURE	<ul style="list-style-type: none"> • Primary Mode of Expression: LITERATURE <ul style="list-style-type: none"> ○ Emphasis on long-distance infrasonic sound in communication has produced a culture of aural storytelling: radio-casts, community criers and fireside story circles are the primary means by which individuals receive 	<ul style="list-style-type: none"> • Primary Mode of Expression: VISUAL ART <ul style="list-style-type: none"> ○ Poor eyesight = limited appreciation for static human art ○ Paintings are backlit, coated with 'cool paints,' pigments designed to reflect infrared light to varying degrees; this allows for the illusion of infrared depth, creating images more realistic to the 	<ul style="list-style-type: none"> • Primary Mode of Expression: MUSIC <ul style="list-style-type: none"> ○ While aural storytelling still exists in the desert, the greater acoustic power of the place have led to several different traditional singing styles, choirs ○ Without much other to do than

	<p>information</p> <ul style="list-style-type: none"> ○ Complexity of stories similar to their expansive nature of speech, full of exaggeration, metaphor and aphorism ○ Mythological narratives feature many named Gods, spirits, spiritual embodiments of different animals and geographical features ○ Modern books feature expansive casts of many different characters; parallel narratives where the same events are described from many different perspectives 	<p>Tortan eye</p>  <ul style="list-style-type: none"> ○ ● Secondary Mode of Expression: LITERATURE <ul style="list-style-type: none"> ○ Prose is more sparse, concrete, based in reality ○ Mythological stories depict the forces of nature as personified beings – Gods are not named, lived actors with personalities, but stoic, distant, and infinitely powerful concepts 	<p>meditate, singing is an almost constant mode of recreation, an ever-present aural feature of the landscape</p>
CALENDARS and TIME	<ul style="list-style-type: none"> ● Due to lack of planet rotation, conventional 'days' as we understand them do not exist; Tortans instead use the movements of their closet moon (appropriately called the Calendar Moon) to organize time, as it is the only celestial object visible in the sky across all regions of the twilight ring ● Pioneered by the Starside due to their long history of tracking the cycles of celestial objects ● Units of time organization are as follows: <ul style="list-style-type: none"> ○ Era: 4096 Weeks (86.3 Earth Years) <ul style="list-style-type: none"> ▪ Approximate age at which a Tortan is considered to be a proper adult ▪ Derived from the Pseudo-Historical figure of Eternal-Lasting-Seed from Strip and Sunside mythology, who began to sun immediately after sprouting, finally attaining enlightenment after 4096 weeks (See: 'ROSETIA Myth and Stories'), at which point they were ready to supersede their mother as leader of the Clan of Clans <ul style="list-style-type: none"> ● [While definitely a historical person, the tale of their enlightenment was likely fiction propagated during their rule to justify their ascension to the leadership and reformation of the calendar in their name; was posthumously deified, though their only lasting impact was the continued use of the calendar and the recognition of one 'Era' as a generational marker and transition into true adulthood] 		

- Year: 9.75 weeks (129.99 Earth days)
 - While Tortan astronomers are aware of the time it takes them to orbit their sun, it is considered incidental—of as much note as a planet’s semi-major axis; Triune’s relatively circular orbit and lack of axial tilt means there are no seasonal cycles worth noting, no universal cycles of harvest, and therefore no reason for years, seasons or repeating months; time progresses in a single additive direction
- Week: 10 days (13.333 Earth days / 320 Earth hours) (a single moon cycle; weekdays or ‘moondays’ correspond to the phases of the moon as it makes its way across the sky in a single, constant arc)
 - #1: Seed Moon (Crescent)
 - #2: Sprout Moon (Half)
 - #3: Flower Moon (Gibbous) (considered good luck if one’s first flowering coincides with the Flower Moon)
 - #4: Elder Moon (Full)
 - #5: 1st Day of Buried Moon (low tide)
 - #6: 2nd Day of Buried Moon (med tide)
 - #7: 3rd Day of Buried Moon (high tide)
 - #8: 4th Day of Buried Moon (med tide)
 - #9: 5th Day of Buried Moon (low tide)
 - #10: Bud Moon (New moon; over horizon, but still obscured by the sun)



(FOR USE IN WRITING DATES, PAIRED WITH STARSIDE NUMERALS)

- Day: 8 hours (1.3 Earth Days / 32 Earth hours)
- Hour: 64 minutes (4 Earth hours / 240 Earth minutes)
- System is highly precise as moon follows same arc across the sky every night; before handheld clockwork devices, each town had a time dial that—when viewed from a precise angle—could tell you the time based on the moon’s size and position in the sky
- Names of each moon day plays into the universal Tortan emphasis on age; children come from the sun, start small, attain fullness over the course of their lives, and once the elders are lost, there is only darkness
 - Title of ‘Buried’ Moon plays into cycles of life and death, as Tortans begin and end their lives in the earth
- Lack of universal celestial reference point during Buried Moon means that almost all work and public events (politics, construction, festivals) are scheduled for Moon days
 - Naturally mitigated somewhat in large Strip cities near coastal areas which all experience easily noticeable fluctuations in tides throughout Buried Moon (low → med → high → med → low)
 - While in the past Buried Moon was a time of flowering, sedentary contemplation and family affairs (especially on the Starside) the invention of widespread timekeeping has allowed for greater levels of organized activity even in non-coastal areas
 - Much to the chagrin of the older generation, who assign a sacred sabbath-like quality

	<p style="text-align: center;">to Buried Moon; believe people should spend their time sunning</p> <ul style="list-style-type: none"> While the Starside invented the modern timekeeping system of minutes and hours (appropriated by the Strip), the concept of eras and weeks are derived from biology or astronomy, and therefore universal 		
RECREATION and GAMES	<p>STRIP</p> <ul style="list-style-type: none"> Sound Spheres <ul style="list-style-type: none"> Sound-proof spheres suspended off the ground to block out the perpetual white noise associated with the long-range sensitivity of Tortan hearing; kind of like a sauna 'Generations' <ul style="list-style-type: none"> A Jenga-like competitive game where players must 'grow' their 'family tree' using circular wooden rungs, in which every rung represents a generation Players can place small rungs easily, or wider rungs with some preparation Two strategies: build tower quickly, risking failure in the endgame; or play 	<ul style="list-style-type: none"> Names of Moon Days used to correspond to the brightness of the Moon, but sometime in the past thousand Tortan years the Strip naming conventions became widespread Pre-industrial mythology describes each new moon as a child of the sun, rising into full brightness before crossing over the great glacier and taking its place among the other stars (SEE MYTHS) 	<ul style="list-style-type: none"> Low visibility of moon and total lack of seasonal cycles means they have no sense of time beyond the cycles of aging and death Often refer to events via sunspots, or generationally, e.g. "In the sun of the I that birthed the I that birthed I." <p>STARSIDE</p> <ul style="list-style-type: none"> Snow sculpting Sun Spas <ul style="list-style-type: none"> Sunning booths with strong overhead artificial light/heat sources; to compensate for lack of sunlight on Starside; <ul style="list-style-type: none"> Disliked by more rural Starside Tortans – suggests weakness, admission to the Strip that Starsiders need what they have 'Mantlepieces' <ul style="list-style-type: none"> Rosetta: "It's like chess, but not at all!" Played on a round gameboard split into three sections via Peace-Sign; each player begins in the centre (the mantle) and spreads their pieces across their

	the long-game hoping your opponent's risk-taking will catch up with them	<p>respective section of the board</p> <ul style="list-style-type: none"> ○ Objective is to reach the edge of the board while balancing pieces along all three sections equally; two players go clockwise, one goes counter-clockwise ○ Focus is on resource management rather than attacking or defending; human games are based on war, but Tortan games are about growth and cooperation ○ Takes 10x longer than human games
FESTIVALS and SOCIAL EVENTS	<ul style="list-style-type: none"> • Lack of seasons or a cyclical calendar means that most events do not have a fixed date: they are organized when leaders/government officials feel that society needs one, or locally according to personal milestones (e.g. coming-of-age) <ul style="list-style-type: none"> ○ Would seem highly irregular to humans—that everyone would just spontaneously agree to stop work and begin celebrating • Importance of moon-days for scheduling means that many 'official' celebrations fall on the Buried Moon, lessening the impact of a stop to work • Only universal celebration is the biological 'First Flowering' of a Tortan, a coming-of-age celebration with different customs depending on the community 	
	<ul style="list-style-type: none"> • Holidays called at very irregular intervals, though most can be categorized as follows: <ul style="list-style-type: none"> ○ Consensus achieved on a particularly divisive issue in the Frond ○ Pollination Festivals in reaction to low birth rates; the Frond sets up public flower houses with fewer restrictions and gives incentives for participation ○ Memorials marking the death of a particularly old and celebrated public official; typically commemorated by the felling of an old growth (highly controversial) • Personal celebrations for having lived an entire Era, 	<ul style="list-style-type: none"> • Mastery Celebrations: marking the completion of one's training in a given specialty—the transition from apprentice to Master • Star Shows: periodic educational stargazing events organized by shamanistic elder astronomers during the Buried Moon • Moonflower Bloom: festival of plenty which occurs during the bloom of the Starside's national flowering plant, an event which occurs only when the small and distant Traveler Moon is at its Zenith (every 135-7 Earth Days) <ul style="list-style-type: none"> ○ * Bloom is slightly imprecise given irregularity of Traveler Moon's orbit, and therefore not useful as a cyclical calendar-organizing event (though there are campaigns to introduce it as a substitute for the arbitrary 'Era' system) ○ At the end of its bloom (a three moon-day period) they get to eat it: often made into Brightroot tea, said to be exceptionally good with


	marking one's ascension into true adulthood <ul style="list-style-type: none"> ○ Not celebrated Starside, which does not value age to the same degree 	bloomed Moonflower	
DEATH and MOURNING	<ul style="list-style-type: none"> • Body seen as an empty vessel which must be returned to the earth: a “hollow” (as in a tree hollow), without substance or soul 		
	<ul style="list-style-type: none"> • Natural burial: dead are buried naked, face-down in the earth, with their shell beds resting directly beneath a thin layer of soil <ul style="list-style-type: none"> ○ Allows their plants to continue growing, spreading into the surrounding earth, while the decaying body acts as fertilizer • Symbolic significance of burying the dead in the same way seedlings are buried is not lost on them; death is merely a return to the earth that birthed them 	<ul style="list-style-type: none"> • <u>At Shore</u>: Lack of nutrients in soil makes growing plants difficult; bodies are thus placed in a mix of wood chips to be composted and used as soil conditioner/fertilizer, most commonly for Daisugi-method trees <ul style="list-style-type: none"> ○ Increases production, avoids importation of Strip trees • <u>Inland (near ice)</u>: Burial / subsurface interment is difficult since the active layer is not more than a few centimeters deep, with solid rock or permafrost beneath the surface; necessitates ‘star burials’: <ul style="list-style-type: none"> ○ Bodies are cut and placed at designated exposure sites to be stripped by scavenging animals and the elements ○ Returns people to nature in payment of debt incurred by taking from nature (hunting, harvesting) 	<ul style="list-style-type: none"> • Inland: Buried outside of settlements • Far Desert: Bodies left wherever
RELIGION	<ul style="list-style-type: none"> • No ‘organized’ religion or religious officials, but a ubiquitous reverence for ‘The Spirit of All Things’ – a personified force of nature imbuing all creatures with breath through its animating light • Spirit of All Things is typically represented by the Sun, as the sun is the source of light, and therefore—to the photosynthetic Tortans—the source of life, energy, and breath • ‘Sunning’ or ‘sun-basking’ thus serves both a functional and spiritual purpose as a form of restorative communion • Ability to hear Rayleigh waves complements belief in the Spirit, as it allows them to sense the movements of animals and impending geological events; to a Tortan, every being in nature has a 		

	<p>voice, an essence—the Earth literally ‘talks’ to them</p> <ul style="list-style-type: none">• Unlike most demonstrably false religions worshipping people or deities, the ‘alien’ element of Tortan worship is connected to their ability to experience something by virtue of biology which the player cannot—it is physically impossible for the player to disprove their subjective experience when they experience reality differently<ul style="list-style-type: none">◦ The ‘Spirit of All Things’ is also not a purely imaginary concept, but a personification of natural ecological systems which <i>do</i> exist			
	<table><tr><td><ul style="list-style-type: none">• The development of civilization and housing has turned sunning into prayer—an occasional ritualistic event rather than a state of being (as it is Sunside)• People expected to spend time each day upon an outdoor sunning rock to enact photosynthesis and commune with the animating light-force of the Spirit—the two being practically synonymous• Person warms their body, slows their breathing, and enters a sublime meditative state (in theory)• Extremely taboo to disrupt this experience in any form—a good way for the player to lose a sudden and devastating amount of goodwill• Public, outdoor nature of sunning means that the act has become somewhat performative, with strong social expectations surround it (e.g. “Oh, I haven’t seen you at the sunning rock recently...”)</td><td><ul style="list-style-type: none">• Distance from the light side of the planet led ancestors of Starside Tortans to reshape their religious experience away from the sun as a focal point for the Spirit of All Things, instead focusing on the natural cycles the Spirit facilitates• Religious rituals centre around notions of sacrifice: everything composted, recycled, or plainly given to the land as offering maintains the natural cycles of matter and energy which sustain life• Consider anything taken from nature—food, soil, plants—as a debt which must be repaid to the earth; to waste anything is a terrible sin• Each town typically has a ritual slab in the centre marked by Torii or inuksuk-like obelisks; used for:<ul style="list-style-type: none">◦ preparing sacrifices◦ confessing waste in front of the community• Even though Starsiders are discriminated against for their disconnection with the sun, their religious practice is more ecologically sensible compared to Sunside Tortans: it gives back to the Spirit rather than engaging with it purely as a means to enlightenment</td><td><ul style="list-style-type: none">• Given the near constant sun coverage and lack of developed civilization, sunning is not a ritual event, but intrinsic to the Sunside way of being• Due to taboos against eating food, and the lack of readily available plants, Sunsiders receive all their energy from photosynthesis—this makes them lethargic (as photosynthesis alone is not sufficient to support the needs of a megafaunal creature), necessitating constant sun exposure and a sedentary lifestyle, which they have folded into their religion by necessity• Feel that they are constantly connected to the Spirit of All Things; in the full bloom of its animating light-force; and that Tortans living on the Strip are therefore lesser, both physically and spiritually</td></tr></table>	<ul style="list-style-type: none">• The development of civilization and housing has turned sunning into prayer—an occasional ritualistic event rather than a state of being (as it is Sunside)• People expected to spend time each day upon an outdoor sunning rock to enact photosynthesis and commune with the animating light-force of the Spirit—the two being practically synonymous• Person warms their body, slows their breathing, and enters a sublime meditative state (in theory)• Extremely taboo to disrupt this experience in any form—a good way for the player to lose a sudden and devastating amount of goodwill• Public, outdoor nature of sunning means that the act has become somewhat performative, with strong social expectations surround it (e.g. “Oh, I haven’t seen you at the sunning rock recently...”)	<ul style="list-style-type: none">• Distance from the light side of the planet led ancestors of Starside Tortans to reshape their religious experience away from the sun as a focal point for the Spirit of All Things, instead focusing on the natural cycles the Spirit facilitates• Religious rituals centre around notions of sacrifice: everything composted, recycled, or plainly given to the land as offering maintains the natural cycles of matter and energy which sustain life• Consider anything taken from nature—food, soil, plants—as a debt which must be repaid to the earth; 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GLOBAL PHILOSOPHIES	<ul style="list-style-type: none">• BALANCE and IN-BETWEENNESS:<ul style="list-style-type: none">◦ Living on a planet torn between two extremes has given Tortans an aversion to dualities; while the hot and cold sides of the planet are opposites, their joining—the moderate, in-between space—is what creates reality			

- Has produced a politics of complete consensus rather than sudden change between two or more conflicting ideologies; 'progress' is viewed negatively as a movement away from balance
- Has produced a culture of which values conservatism and simple living (though doesn't always practice it)
- Values unity between all things: knowing and unknowing, focusing and unfocusing, being and unbeing
- 'Goldilocks' stories are common
- SYMBIOTIC ENVIRONMENTALISM:
 - Bodily cooperation between people and their plants lends Tortans a deep appreciation for nature – a sense that intelligence exists only at the earth's consent, and so its processes must be respected
 - Universe is conceptualized as an open ecological system where everything exists within a continuum, in which all matter and energy must be changed, recycled, reincarnated, etc. into new forms to facilitate the health and well-being of all
 - Tortans do not consider themselves or their creations separate from nature, but a part of it
 - Outrageous to create something which cannot decompose, which takes from the system without giving anything in return – living is a debt which must be repaid in death
 - Quotes:
 - "There is an archaic, primitive connection—a necessary unity—between the natural world and the Tortan mind; between life and existence itself."
 - "All living organisms receive inputs in the shape of air, energy, water, and give off outputs in the form of waste and death. All living societies receive inputs from the earth, the atmosphere, and the waters, and give outputs into these reservoirs."
 - "Affluence can be attained either through increasing production or reducing needs; since increased production usually means ravaged systems, the best strategy seems the reduction of needs... the recognition that enough is plenty; a truly affluent society is one of material sufficiency and spiritual riches."
 - "Our profound regard for all life is motivated by the most selfish of reasons: it is magnificent. When you see a Mossomer roll or a Forestoris roar, your heart sings; without them we are diminished."
- ANIMISM:
 - While their society is modern, and science can project an accurate schema of the world, old beliefs persist in their attitudes and references to other living things
 - If Tortans are but one small part of a greater living whole, it stands to reason that the other parts of that whole would be just as important, just as deserving of respect; therefore...
 - Believe that all things—animals, plants, rocks, rivers, mountains, weather systems, human handiwork, perhaps even words, metaphors and true names—possess a vitality, an agency, and a distinct spiritual essence or soul
 - Personhood does not require Tortan likeness—Tortans are instead perceived as being like other persons (rock persons, bear persons)
 - This is why (despite looking alien in your stature, gait, clothing) *most* people still recognize you as a person – you exist within the world, and that is enough to receive respect
 - No name for this system; so deeply engrained that it goes unnoticed in everyday conversation. Examples:
 - Instead of "The weather is foul today," they would say, "The sky is angry."
 - "The water is calm." → "The lake is happy."

	<ul style="list-style-type: none"> ○ <i>"People gain meaning and power through interactions with others, whoever they may be; through respectful interaction, they themselves learn to 'act as a person.'"</i> <p>REGIONAL CAVEATS:</p>		
	<ul style="list-style-type: none"> • SYMBIOTIC ENVIRONMENTALISM: As the Strip has industrialized, there has been a movement of young people away from their clans and into the cities, where people are beginning to lose touch with older sensibilities—there is a growing movement towards change and progress, advancing the well-being of individuals (sometimes at the cost of the environment) <ul style="list-style-type: none"> ○ These people (in contrast to the old) see the player as a possible figurehead, a symbol of what the future could bring if they seized it ○ "" "" → 	<ul style="list-style-type: none"> • IN-BETWEENNEES: Living away from the 'centre' has led Starsiders to value centrality and balance less; have a greater appreciation from extremes, for contrasting points of view—tolerant of a wider discourse <ul style="list-style-type: none"> ○ This makes Starsiders surprisingly open to the player's points of view; however, tolerance does not necessarily mean appreciation or endorsement; most see you as a curiosity, or possibly as a bargaining chip with the Strip ○ <i>[Ironically, this makes the player a neutral figure on the more extreme Starside, and an extremely polarizing one on the conservative Strip]</i> 	<ul style="list-style-type: none"> • ANIMISM: Not merely a cultural artifact, but a deeply pervasive belief which pervades their entire culture; people feel a deep connection to the desert and its creatures in which existence alongside them is a constant process of negotiation, reverence, sacrifice <ul style="list-style-type: none"> ○ This makes Sunsiders wary towards the player, who they see as someone totally disconnected from the world, a foreign—and therefore unwelcome—element
NAMES and GENEAOLOGY	<ul style="list-style-type: none"> • Because Tortan speech is inaudible, a series of low-frequency tones, phonetic translation of Tortan names into human languages is impossible: names must always be translated literally (similar to European translations of some Native American names), e.g.: "Greenhorn" or "Tenderfoot" or "Dune Swimmer" • Possible Names Could Include: <ul style="list-style-type: none"> ○ Geographical features (Mountain, Meadow, Arroyo, River) ○ Near-Infrared Colours ○ Plants/Creatures (leaf, inky baby) ○ General Nouns (echo, heart, hearth) ○ Feelings (serenity, peace) ○ Occupations (Smith) ○ Region-Specific Words ○ Famous Historical/Mythical People ○ Characters from Literature, Art • If the name has no literal translation, Rosetta will simply choose a name for the Player to use (e.g. Greg) as a code-word for Rosetta to transmit the actual name 		
	1. Honorific: Age-Based 2. Given Names: Region-Based 3. Family Name: Clan-Based (___ + seed)	1. Family Names: Occupation Based (baker, hunter, lawspeaker, ___er) 2. Given Names: Region-based	1. Given Names: Sentences / Compound Constructions (___-of/to/by/for/upon-___)

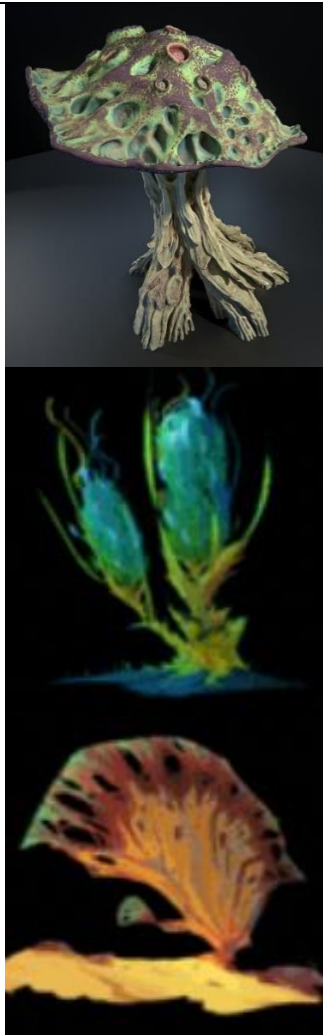
	<ul style="list-style-type: none"> ○ <u>Examples:</u> <ul style="list-style-type: none"> ▪ Grizzled Greenhull ▪ Grasseed ▪ Aged Taproot ▪ Tideseed ▪ Full-Grown Thickhull ▪ Earthseed ▪ Bract Budmoon ▪ Mushseed ○ Steadfast ○ Meadowseed ○ Granite Tumbleseed ○ Leafgreen ○ Jade Leafseed ○ Leaf Fastseed ○ Light Greenseed ▪ Light ▪ Moonshine ▪ Moonstone ▪ Greenstone ▪ Sunstone ▪ Amber ▪ Clay ▪ Gentle ▪ Steadfast ▪ World Rule ▪ Fruitful ▪ Bright Pledge ▪ Watchful ▪ Leaf ▪ Dry-Earth ▪ Brook ▪ Bloom ▪ Meadow ▪ Small-Hollow ▪ Granite ▪ Marble ▪ Jade ▪ Amber ▪ Prarie ▪ Plenty ▪ Tumbling-Water ▪ Sunward-Wind ▪ Fair-Song ▪ Council 	<ul style="list-style-type: none"> ○ <u>Examples:</u> <ul style="list-style-type: none"> ▪ Hunter Creststar ▪ Fisher Moonflower ▪ Inker Starchild ▪ Smelter Hearth ▪ First-Riser Snowborn ▪ Feller ▪ Dweller ▪ Pursuer ▪ Tanner ▪ Peddler ▪ Trader ▪ Celestial ▪ Universal 	<p>2. Family Names: N/A; names are self-chosen</p> <ul style="list-style-type: none"> ○ <u>Examples:</u> <ul style="list-style-type: none"> ▪ Sun-In-Shadow ▪ Sounds-of-Sundered-Sun ▪ Chant-to-Sand ▪ Prints-Up-on-Dunes ▪ Renewed-By-Light
ANCIENT HISTORY	<ul style="list-style-type: none"> • Ancestors lived in the bases of new trees, which (due to the compound vine-like 	<ul style="list-style-type: none"> • Starside founded by sailors who made it to shore in a straight shot across the width 	<ul style="list-style-type: none"> • A cradle of civilization, the Sunsiders once had an organized society with

	<p>nature of local trees) they moulded over many years to create a cavity; same technique used to create natural tree steps, bridges, etc.</p>  <ul style="list-style-type: none"> • Very few ruins on the Strip mainland because Tortans do not want to waste anything – as much as they worship age, they do not worship the past—<i>longevity</i> is sacred, not that which used to be <ul style="list-style-type: none"> ◦ Modern architecture is often built on pre-existing foundations, and includes many pieces of repurposed wood and stone 	<p>of the long sea</p> <ul style="list-style-type: none"> • Before this point, sea travel was inadvisable due to the lack of stars for navigation—meant that consistently getting to and from specific places was almost impossible • Difficulties of sea travel exacerbated by the change in temperature: because plants on Triune are not used to seasonal variation (sunspots notwithstanding), they easily die or become dormant <ul style="list-style-type: none"> ◦ Only those who implanted cold-resistant mosses beforehand were able to last; such plants (native to shores of Strip and Starside) are now called “Sailor’s Moss” • Starside shore is littered with the ruins of several failed colonies which all quickly died out, presumably due to lack of sunlight • Only ones who survived were those able to digest meat due to genetic mutation; it is theorised that the entire modern Starside gene pool descends from this clan, or group of clans <ul style="list-style-type: none"> ◦ Contributes to stereotype of Starsiders as inbred 	<p>writing and religious institutions</p> <ul style="list-style-type: none"> • Peaked during and the era-long Sunspot which triggered an ice-age • Almost all ruins inaccessible to modern Tortans, as the ice age extended the planet’s habitable area far into the desert: what once was a thriving society has become scorched sandstone and long-boiled riverbeds
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FLORA (TREES)



- [Plants/photosynthetic surfaces are all black due to increased light absorption]



FAUNA

- **Leaflet** (literally: 'fiendish leaf'): tiny seed creatures with stary leaf-faces that fall from leaflet trees; migratory, but social; glide from their home tree in organized clans to find empty land; flight achieved by thrusting their lower jellyfish-like tendrils, all connected via a red umbrella membrane; immediately die at destination, sprouting new

- **Sea Leaves** (direct translation): plant/animal hybrid which enacts an endosymbiosis with Tortan algae, consuming their chloroplasts for photosynthesis in a process terrestrially called 'kleptoplasty'

- **Wooshes** (literally: 'walking bushes'): sheep-like desert creatures covered in a thick coat of metallic fur; northern subspecies coat is tinted green; acts as protection similar to barbs on succulents

trees from their bodies



- **Mossomer** (literally: ‘**moss rocker**’) slow, stocky, stone-like organism; while bipedal, often rolls as a form of locomotion; collects thick moss on its back—may be similar to the photosynthetic symbiosis of Tortans, especially given its sedentary nature; has been known to eat leaflets on occasion, possibly out of confusion

KERIM AKYUZ



- **Mushroam** (literally: ‘**mushcup wanderer**’): photosynthetic, like Tortans and forestoris (may have a common ancestor); low intelligence; solitary and migratory; wanders the forests of the northern Strip constantly feeding on plants;



- **Platefish** (direct translation): dark fish with flecks of red throughout its scales; face, tail and fins are accented by thick plate-like cartilage; looks like Relicanth, tastes like chicken



- **Larvel** (literally: ‘**inky baby**’): medium-sized exoskeletal snail; warm-blooded; all sides except bottom covered in intersecting geometric black plates with green sheen/highlights; scavengers, feeding off refuse in the surf; vulnerability led to development of toxic black ink sprayed from soft underbelly if it ever loses contact with the ground



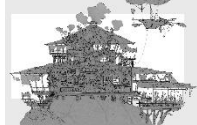
- **Sandwhale** (literal translation: ‘**swimmer of the dunes**’); massive, bronze-coloured beluga; slithers through the dunes with the gait of a seal; buries itself in the sand for warmth and protection; blows sand through top hole



wood-like plates cover its body and face; felled bodies often serve as forest grow-beds for new plantlife and leaflets



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- **Forestoris** (literally: '**four-storey forest**'): massive tortoise with crescent-shaped hammer-head; shell curves outward like wings; no eyes—relies on sound; extensive tree cover on back; top green→bottom red colour scheme with blue extremities; often used as pack animals, with tree-houses built directly on shells



- **Torisborge** (literally: '**floating forest**): Lapras-like water variant of forestoris; substantially larger, almost island-like; streamlined back like a smoothed rock; does not often dive—head rests at water level to feed through baleen teeth



- **Stampede** (literally: '**many angry legs**'): large white arctic centipede; warm-blooded w/ blubber-covered cartilage exoskeleton; has flared horns which it uses as a digging tool and for defense; emerges from underground burrows to feed on helpless larvels; secretes anti-toxin through saliva to neutralize toxicity of larvel ink



- **Trawler** (literally '**tall crawler**'): white, bug-eyed blubbery mammal with long head which it uses as a blunt-force weapon; lives in a concealed familial den; feeds on stampedes; domesticated by Starside Tortans for food and transport over 8500 Earth years ago

