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*See Appendix EPATI – The Existential Patents*  
*See Appendix EPAT2 – Existential Patents Quick Summary*  
*See Appendix EXP – Expansion & Colonization Example*  
*See Appendix T&C – Taxation & Census Example*

*“How would an interstellar civilization set out to explore its neighboring star systems? It might establish staging posts, colonies, on planets of nearby stars. But this would take time. Time to find and modify favorable planets. Time to build new spacecraft. Eventually, later generations of explorers would set out wending their way among the worlds creating an interstellar nervous system binding up the stars. Perhaps they’d come upon another expanding civilization and encounter beings previously known only from their radio transmissions. Star wars are unlikely. One civilization certainly would be far more advanced than the other. It would be no contest.*

*Perhaps they would cooperate exploring together a small province of the Milky Way. But even nearby civilizations could spend millions of years roving between the stars without ever stumbling upon our obscure solar system. In a galaxy of 400 billion suns perhaps no one has found us just yet. Advanced interstellar civilizations would know about many worlds. Some inhabited, some barren. Perhaps they would share their findings assembling some vast repository of the knowledge of countless worlds. They might compile an Encyclopedia Galactica.” – Carl Sagan, Cosmos, Episode 12<sup>1</sup>*

**Dust Notes:** Most fiction about early interstellar colonization envisions a Polynesian-like situation of scattered small colonies separated by vast tracts of space and time between contacts. There is no reason to think this vision of diaspora is wrong.<sup>2</sup> Cultural conformity and political unity are the casualties of time and distance; thus, most science-fiction writers take the interstellar setting as a liberal opportunity to air their social grievances and philosophical visions.

- ✓ “...the volume of all biospheres is miniscule compared to the volume of the universe.”  
– Matt O’Dowd (City University of New York), “Are You a Boltzmann Brain,” PBS Space Time Channel, April 26, 2017.

**The Landing:** Landing is the process of using Colony Transports to establish a new colony<sup>3</sup> on an uncolonized planet, only Colony Transports can Land to establish new colonies in the early game. An ‘uncolonized planet’ is a planet without a colony of the Native Population Type that is on the Colony Ships, it does not mean *no colonies*. As noted in 3 Taxation & Census and 2 Order, *supra*, ‘Balkanized’ planets are possible where different Native Population Types may co-exist on the same planet. Colony Ships are never required to Land by being located in a system where there is a colonizable planet, but may be forced to Land due to OSL. A Scene must be on the star of the system where the Landing is to occur (see Colonization, 1 Expansion, pp. 876-877, *supra*) or no Landing can be made (*ut infra*, p. 922) because of bureaucratic indecision.

- ✓ The Controlled Environment Technology (CET) Existential Patent is required to Land on any Unpleasant, Hostile or Uninhabitable Planet.
- **Spiffy Spaceman:** You know that Spaceman Spiff is always crash landing his flying saucer on remote alien planets, right? Maybe he needs to become a Spiffy Spaceman instead! If he is not more careful, the Yukbarfs might reverse engineer his flying saucer from the wreckage.

Colony Ships that have expired OSL and CET will never refuse to obey a Power Activation to Land on an uncolonized planet *as long as they can legally do so* (i.e. it is not a Maximum Habitability); if they have expired OSL but not CET, they will never refuse to obey an Expansion Power Activation to Land on an uncolonized planet that does not require CET to colonize. This will frequently be the case when it is time to Land if you wait long enough...

If the above conditions do not apply, each Colony Ship designated to Land must check to see if it obeys the Expansion Power Activation to Land (see Power Off, 2 Constructural Elements, p. 193, *supra*). If the Colony Ships are in the same system with a supporting colony (i.e. colonizing another planet in the system) and they fail to obey the Power Activation, a second check is made by the Supporting Colony as described in Engines Offline, 1 Movement, p. 839, *supra*. Of course, if at least one Colony Ship Lands, it establishes a Supporting Colony for the other Colony Ships that didn't Land (whether they weren't ordered to or refused) and thus the other Colony Ships *cannot* thereafter Land (as there is now a colony on the planet) but can Unload Population or move away. As there are no die rolls involved in Landing, Enlightenment cannot and need not be applied, except to Power Activation failures.

- ✓ *Terra nullius* is the underlying assumption of GGDM, and science-fiction trope, regarding the initial colonization of planets by the Major Races. This may even be true if the planet is the home of a Minor Race (such as in the movie Avatar (2009)); all of the alien invaders of Earth seem to have regarded Earth as *terra nullius* (in the tradition of European colonization). See also the Outer Space Treaty of 1967.
- Island Notes: There can be only one colony of each Native Population Type per planet, see Lebensraum, 3 Taxation & Census, p. 321, *supra*. All populations of the same Native Population Type Landed (or subsequently Unloaded) on the same planet *form one colony* for game purposes. A colonized Planet must be placed on each colony owner's Public Space adjacent to either the star to which the colony's planet belongs or another planet in the same system. Planets do not need to be laid in Orbit Number order. While Stars may come and go from the Public Space as exploration moves outward, once a planet is colonized, it and its star will remain on the Public Space until the colony is destroyed, captured, or moved, plan accordingly.
  - ✓ The day Mars became a place on our Public Space:
    - “The cameras on each [Viking] lander revealed a kind of rocky desert. Beyond the lander itself, we saw for the first time, the landscape of the red planet. It didn't look like an alien world. There were rocks, sand dunes and gently rolling hills, as natural and familiar as any landscape on Earth. Forever after, Mars would be a place.” – Carl Sagan, Cosmos, Episode 5.
- Lines of Communication: All colonies must be connected on the Public Space by a Pathway to at least one Government Title at all times (see The Claaaw is Our Master, 2 Government Titles, p. 597, *supra*). A new colony requires the immediate establishment of a legal Pathway. The new colony begins with the active Constructural Elements of the population that formed the colony.
  - ✓ I found it richly amusing that they kept repeating in almost every episode, like a mantra, of Stargate Universe (2009-2011) that ‘these are all the wrong people’ referring to the approximately 80 refugees onboard the Ancient starship Destiny. Yet those were the ‘right people’ to be on Project Icarus, located on a distant planet, who arrived by starship and were beamed down (as that particular Stargate could only dial out)?
- Prison or Paradise?: Population on a new colony will retain the political status of their origin planet. If Colony Ships from multiple origins are Landed at the same time, the lower political status will prevail. A new colony established with Converted populations will revert if not guarded by a warship (they will not revert while on Colony Ships, *ut supra*).

- ✓ Colonization using convicts and prisoners is not a myth. The British were particularly notorious in this respect, shortly after the American Revolution they were shipping convicts to colonize Australia. The First Fleet consisted of six convict ships guarded by two Royal Navy ships that left England in 1787 and arrived months later at the Botany Bay colony in January 1788. The female convict ship HMS *Lady Juliana* – loaded with prostitutes and women convicted of petty theft, along with their children, sent to ‘civilize’ the Botany Bay colony arrived in 1789 (with numerous females plying their trade at ports along the way) and was unwelcome because the colony was starving and had not received resupply. The infamous Second Fleet was another group of six ships carrying over 1000 male convicts, 40% of whom died *en route* or shortly after arriving in Australia in 1790. They were equally unwelcome due to the lack of skilled labor in the new colonists. The Third Fleet with eleven ships brought 2000 more male and female convicts, plus a few notables and skilled workers, *and provisions* in 1791. Despite the voyages and initial hardships, eventually the convicts found life in Australia a liberation from the oppressive morals and class system of England.
  - It is certainly not improbable that the drive to colonize Australia was a result of having lost the 13 Colonies less than a decade before....
- ✓ “Beginning in the early 17<sup>th</sup> century, the City of London shipped their unwanted excess population, including vagrant children, to the American colonies – especially the Colony of Virginia, the Province of Maryland, and the Province of Pennsylvania – where they became not apprentices, as the children had been told, but indentured servants, especially working in the fields. Even before the beginning of the Atlantic slave trade brought Africans to the British colonies in 1619, this influx of ‘transported’ English, Welsh, Scots, and Irish was a crucial part of the American workforce. The Virginia Company also imported boatloads of poor women to be sold as brides.

The numbers of these *all-but-slaves* was significant: by the middle of the 17<sup>th</sup> century, at a time when the population of Virginia was 11,000, only 300 were Africans, who were outnumbered by British, Irish and Scots indentured servants. In New England, one-fifth of the Puritans were indentured servants. More indentured servants were sent to the colonies as a result of insurrections in Ireland. Oliver Cromwell sent hundreds of Irish Catholics to British North America during the Irish Confederate Wars (1641-1653). In 1717, the Parliament of Great Britain passed the Transportation Act, which allowed for the penal transportation of tens of thousands of convicts to North America, in order to alleviate overcrowding in British prisons. By the time penal transportation ceased during the American Revolutionary War (1775-1783), some 50,000 people had been transported to the New World under the law. *When the American market closed to them, the convicts were then sent to Australia.* In total, 300,000 to 400,000 people were shipped to the North American colonies as unfree laborers, between 1/2 and 2/3 of all white immigrants.” – from Wikipedia article, *White Trash*,” captured April 5, 2020 (emphasis added).

- A single ship in GGDM can be said to represent a *capability* rather than a singular game unit. Thus a ship in the game may represent a fleet, and the three fleets plus colonization of Australia might be represented by Landing

a single Colony Ship on a new planet with the rest being storytelling in News Events and Interventions by the Concierge. The entire population shifting system of GGDM – like most parts – should be considered a ‘smear’ analogous to the previously discussed quantum imagery – being both literal-of-the-moment and historically figurative in extended time.

- Survival & Ethical Dilemmas: There is no way to prevent Colony Ships from Landing on a planet which already has colonies (causing a Forced Balkanization Disruption Event on the **alien colony**, see 2 Disruption, p. 273, *supra*)<sup>4</sup> – or on any planet – unless they are destroyed before the Landing<sup>5</sup> or unless the planet is at Maximum Habitability. Of course, this rule does not account for technologies that may develop during the course of the game. Populations may not be Landed on Unpleasant or Hostile Class Planets without Controlled Environment Technology. Colony Ships that are in an unsupported system will perish if their Operational Supply Limitation (OSL) has expired, they have failed their Supply Roll (see 3 Movement, *supra*) and they cannot Land. This may even justify Scene Snitching, see 3 The Side-real Stage, p. 124, *supra*, if someone else has placed a Scene on the star.

- ✓ “A thousand people in an iron box. No food, no water. After a month we ate the weak. You know what I hate about myself? I know what people tastes like....I know that babies taste best.” – Curtis Everett, *Snowpiercer* (2014).

What is the difference between Mr. Wilford’s Train and a Colony Transport? Colony Ships are not made to convert to Orbital Cities if they cannot Land (for one thing, Orbital Cities are much bigger) and thus may not become Orbital Cities under the baseline rules of GGDM if they cannot Land or Unload. That does not mean that versatility technology cannot be developed in the game that would allow advanced Colony Ships to both act as Colony Ships and become Orbital Cities, for example, using Tender Ships to insert Colony System Boats as mobile Orbital Cities.

- ✓ While forced Balkanization from Landing will not cause **apostasy**, as explained in 3 Disruption, p. 283, *supra*, subsequent Loading or Unloading of *anything* might.
  - ✓ In late 2017, it was determined and/or announced in the media that there is a cave on the moon large enough to house a future colony; how exactly this is to be done or why or when we will get there is an unresolved matter. But this is an example – and a striking literary image – of how colonization of hostile environment worlds might actually occur; having mastered the Earth (and significantly damaged it in the process), humanity’s possible first foray to colonizing the solar system returns us to being cave dwellers on the shore of the cosmic ocean.
- Pandorum: Colony Transports (CTs) are consumed (‘scrapped’/‘cannibalized’) by Landing populations to establish a new colony.

There are any number of possible reasons for this, but the most reasonable would be that either the Colony Transports literally landed and cannot take off once on the surface, or that the CTs were cannibalized to provide materials for the colony. Colony Transports that only Load, Transport, and Unload Population at established colonies are not consumed (see Opening the Can Of..., 3 Expansion, pp. 914, *supra*). In this, they are really acting like transports.

Consumption of Colony Ships during Landing applies only to Colony Transports, see Colony Transport Existential Patent. It is possible to develop Colony Ships that are not consumed by Landing through later Patents.

- ✓ Landing Colony Transports in GGDM feels sort of like Marvin the Martian's 'instant Martians' from the bubble-gum machine (aka gumball machine) – just add water and poof, an obedient green colony pops up. Within the time scales and abilities of GGDM civilizations, that would be the appearance of it.
- ✓ Pandorum is a fictional deep-space psychosis that is the name of a 2009 movie. The production company went bankrupt right after the film bombed at the box office.

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*“For the natives, they are neere all dead of Small poxe, so as the Lord hathe cleared our title to what we possess.”*

– John Winthrop, first Governor of Massachusetts Bay Colony, Quoted in Alfred W. Crosby, Ecological Imperialism: The Biological Expansion of Europe, 900-1900 (1986), p. 208

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*“The seams of Pangaea were closing, drawn together by the sailmaker’s needle. Chickens met kiwis, cattle met kangaroos, Irish met potatoes, Comanches met horses, Incas met smallpox – all for the first time.”*

– Alfred W. Crosby, Ecological Imperialism: The Biological Expansion of Europe, 900-1900 (1986), p. 131 <sup>6</sup>

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**Bad Exchanges:** Balkanization of planets *bypasses* the troublesome issue of xeno-microbes. The inadvertent exchange of microbes is no small matter; the Aztec Empire was ravaged by smallpox – one of the few diseases that modern medicine has rendered ‘extinct’ in the wild – (samples are kept in Atlanta and Moscow) leaving their capital vulnerable to conquest by the tiny Spanish expeditionary force and local tribal allies. Had the Aztecs understood smallpox as a virus, *what could they have done after the Spanish were already there?*

This is a possible point of Intervention by the Concierge based on judgment of technologies and habitats on the planet; e.g., if the planet is Hostile to all colonists, and each colony lives in a dome, there probably is minimal risk of contamination. This should also be kept in mind when contacting Minor races, during First Contact, during Ground Combat (i.e. dead bodies and destruction), or when transporting alien populations. The issue of xeno-microbes is always hovering in the background of contact between species (or even human populations) and microbial life is always evolving, adapting (see feature quote, George Dvorsky, “Alarming Study Indicates Why Certain Bacteria Are More Resistant to Drugs in Space,” in 1 Expansion, p. 885, *supra*). H.G. Wells issued the first modern warning in the clever ending to War of the Worlds (1898).

- ✓ Other than the Black Death, people generally underappreciate the effect of epidemics on history, yet microbes (and biological warfare) is the one thing we still fear (as evidenced by zombie apocalypse movies). An epidemic may have ‘saved’ Athens from Spartan siege in 430 B.C., the epidemic was so potent that it killed half of the population of densely-packed Athens, and the Spartan army and their allies refused to come near the city. Conversely, this epidemic is also likely the cause of Athens’ ultimate

defeat (just as the Black Death severely crippled the Church, see 1 Disruption, p. 252, *supra*); the loss of manpower from the deaths, the toll on public morale, the financial losses, loss of skilled craftsmen and leadership (the general Pericles and his sons all died of the epidemic); Athens couldn't even hire mercenaries, who did not want to be near the city.<sup>7</sup>

It is possible that some sort of Columbian Exchange will occur in any situation involving Balkanization of a colony world, and especially invasive colonization of a Minor Race (or colonization of any world that has a biosphere). How many alien planets do you think the Earth ants invaded through Babylon 5 (see top feature quote in 1 Entropy, p. 214, *supra*) considering that most species in the program breathe the same air as we do? Of course, that is a matter where the participants will need to 'look' to determine if it is possible; it is equally possible, or even probably more likely in reality, that most species will not be environmentally compatible: If we ever met any Venusians, likely our ants wouldn't follow them home.

- ✓ Remember all those awful Venusian creature features? 20 Million Miles from Home (1957), Zontar (1966), It Conquered the World (1956)... Now you know what the native fish in the Great Lakes and Mississippi River think of the Asian Carp invasion.

While much of the history associated with the Columbian Exchange is just plain ugly – venereal diseases, trans-Atlantic slavery, piracy, tobacco, cultural obliteration and imperialism, invasive species – participants should remember that the term Columbian Exchange is a completely neutral term that describes a massive, global (not just Europe, Africa and North America) and *indifferent* historical process of 500 years that is no different, more or less brutal or beneficial, than the 500 years of the Great Migration that shaped Europe before the Middle Ages. Such movements are within the scale of GGDM play, to be introduced intentionally or unintentionally.

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*“It's not going to do any good to land on Mars if we're stupid.” – Ray Bradbury*

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**Noosphere:** Landing colonies on lifeless planets adds a *noosphere* to a planet that does not have a biosphere. Landing colonies on planets that already have a biosphere, may add to, intrude upon, disrupt, or destroy – depending on how profoundly these concepts are applied – an existing *noosphere*. In noosphere theory, the line between geosphere and biosphere is fairly stark, while the line – if such exists – between biosphere and noosphere is fuzzy and implies an emergence.

**Specialized Colonies:** All colonies, unless otherwise designated, are considered to be basic colonies (i.e. 'general colonies'), self-sufficient generally, and representing a general cross-section of the population of that type (both genetics and sociocultural classes), carrying on all of the culture and general functions of civilization in that place. It is possible to create Specialized Colonies (or 'special purpose colonies') to perform specialized functions in a manner superior to that of a general colony. Science-fiction literature and movies are full of 'prison colonies' (e.g., *Dune*'s Salusa Secundus), secret 'research colonies' (e.g., Traveller RPG's Research Station Omicron), 'mining colonies,' 'farming colonies,' military 'observation/listening posts/depots,' 'trading posts,' 'Foundation colonies' on the edge of the galaxy, and such other colorful places.

- ✓ Specialized Colonies not to be confused with *Special Planets* (see Resources from Special Planets, 2 Taxation & Census, p. 307, *supra*) are created by Special Writ similar to a Land Grant Writ (see Land Grant, 3 Colleges, p. 488, *supra*), which describes all of the advantages and disadvantages of a *type* of Specialized Colony and the Writ

would be activated in conjunction with either Landing a new colony or Loading Population to Colony Ships to send outward.

- ✓ It is probably *nearly* impossible to change an established general colony to a Specialized Colony – think of the retooling, reorganization, displacement of non-specialized population.
- ✓ A Specialized Colony may become a general colony by informing the Concierge of the revocation of the Specialized Colony status and Unloading enough population onto the colony to double the size of the colony.
- ✓ A colony cannot be both a general colony and a Specialized Colony, and a Specialized Colony cannot exist within or be hidden in a general colony.

This latter is a general rule for game sanity; if the participants want to engage in subterfuge, it may be possible to create Specialized Colonies within a general colony. As previously discussed, all of the population of one Native Population Type on a planet are considered to be one colony for game purposes, but an example of a Specialized Colony of the same Native Population Type might be ghettos or prison work camps, where minorities are reduced to near slavery. Even if there were an alien Specialized Colony hiding inside a general colony of another Native Population Type, it would still be a separate colony for game purposes, the only issue would be the concealment.

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*“It struck me as I waited that all great enterprises are about logistics. Not genius or inspiration or flights of imagination, skill or cunning, but logistics. Building pyramids or landing spacecraft on Jupiter or invading whole continents or painting divine scenes over the roofs of chapels: logistics.”*

– Tom McCarthy, Remainder (2005)

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**Magnitude of Mars:** A million humans consume three million pounds (1,500 tons) of food per day – and that’s being conservative.<sup>8</sup> Thus, military students learn the adage, ‘Amateurs talk about tactics, professionals talk logistics’ (think back to 3 Movement generally, *supra*). Learn the logistics. Work it out.<sup>9</sup> Logistics always kills brilliant plans, like paper always beats rock.

The current population of the world requires about 21 billion pounds of food per day;<sup>10</sup> some populations don’t have enough food, some populations waste food (and you know to which I refer), food distribution is not the least part equitable, but that figure is a good starting point for our planetary domestic subsistence. By extension then, it is not unimaginable that the world consumes around 100 billion pounds of materials and/or resources per day to maintain our global civilization.<sup>11</sup>

- ✓ “You’ve got simultaneous epidemics of obesity and starvation. Explain that one.” – Governor Nix, Tomorrowland (2015), see full speech, 3 Entropy, EN 4, p. 250, *supra*.

In the 21<sup>st</sup> Century, just having a sustainable colony of twenty people on the Moon would be an amazing accomplishment (at a ton of food per month, plus water, medicine, replacement parts, equipment, hygiene, fuel). We have managed to continuously keep a handful of people in low orbit for the last couple of decades – and that requires such significant expenditure that nations have turned to fledgling commercial space transport companies to make the required supply runs.

Even assuming for sake of argument that Mars is a nice place to live (which it isn't of course), imagine the effort and the capabilities that would be required just to move 1 million humans (a city) from Earth to live sustainably on Mars? Logistics is keeping us from manning Mars.

- ✓ "...because if the planet ever is terraformed, it will be done by human beings, whose permanent residence and planetary affiliation is Mars. The Martians will be us." – Carl Sagan, *Cosmos*, Episode 5.

Yet, certain abilities must be assumed for the sake of the game, therefore, the game is a balance between what must necessarily be assumed to be possible, while at the same time, bearing in mind the true magnitude of what is being assumed.

- ✓ Were the Romans or the Renaissance people to have imagined our world, they would have to imagine advances on a similar scale to be able to foresee our world. Of the two, only select Renaissance thinkers could have even begun to imagine – for example, Kepler's *Conversation with Galileo's Sidereal Messenger*.
- Soldier's Ration: Col. Trevor N. Dupuy, Curt Johnson, David L. Bongard, and Arnold C. Dupuy commented in How to Defeat Saddam Hussein (1991):
  - ✓ "Generally speaking, a man ate about three pounds of food per day (mostly bread and other grain products) and a horse needed ten pounds of grain and again that much grass, fodder, and silage. For a modest army of 20,000 men and 5,000 horses, this amounted to a daily consumption of 85 tons of edibles, including 50 tons for the horses. Along with the necessity of gathering fodder or finding pasturage for the horses, soldiers usually supplemented their grain or bread rations with meat, cheese, vegetables and fruit gathered on the march. ... Although soldiers commonly carried on their persons enough food for a few days (mostly flour or biscuit supplemented by beans or salt meat), horses generally depended on grazing from local pastures. For purely logistical reasons, an army had to find fresh sources of fodder regularly..." *Id.*, Appendix F, pp. 187-188.

The authors also point out tentage, wagons, replacement armor, weapons, and repair shops and other logistics that went along with just having food and fodder. Support of large forces such as those fielded by the Romans, Persians, speak of sophisticated and stable supply sources and logistics; in Medieval times, most battles were fought locally with only a few hundred men on a side. This discussion was of pre-gunpowder armies. The burden of logistics becomes exponentially greater each with the spread of gunpowder weapons, modern national conscription beginning in the 18<sup>th</sup> Century, and mechanization.

The daily ration of a French soldier in 1805 amounted to 48 ounces, or 3 pounds of food plus an ounce of brandy and a bottle of wine or beer. The munitions bread probably wasn't that tasty as a meal and it was most of what they received; the formal name soldiers gave it was *pain de munition* or "ammunition bread." Use your imagination. Still, it is clear that three pounds per day of food has long been the standard military field ration.

- ✓ "Hardships could not be blamed for such lapses, since an imperial order of May 14 fixed the daily ration of the soldier at 24 ounces of munition bread, 4 of soft bread, 16 of fresh meat, 4 of rice or dried vegetables, an ounce of brandy and a bottle of wine or beer." – Lynn Montross, War Through the Ages (3<sup>rd</sup> Ed., 1960), p. 522.

For the record, the metric system was not formally adopted by France until 1799 and was not compulsory until 1837, and was internationalized in 1870. Thus, the imperial order of May 14, 1805 referenced weights in the English system. See Russ Rowlett, “The Metric System,” <http://www.ibiblio.org/units/metric.html>, last revised April 27, 2018.

Soldiers have never appreciated field rations, the now ubiquitous Meal, Ready to Eat (“MRE”) was called by various names, including “Meal, Rejected by Everyone” when I served. The parts of the meals also had pet names, such as “beans and baby dicks” (I am not making this up) and the infamous “Wolf cookie” which you threw back over your shoulder for the wolves to eat after taking one bite.

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- ✓ “Each meal provides about 1,200 calories (5,020.8 kJ). They are intended to be eaten for a maximum of 21 days (the assumption is that logistics units can provide fresh food rations by then), and have a minimum shelf life of three years (depending on storage conditions) ... Each MRE weighs 510 to 740 grams (18 to 26 oz.), depending on the menu. Since MREs contain water, they weigh more than freeze-dried meals providing equivalent calories.” – from Wikipedia article, “Meal, Ready to Eat,” captured August 8, 2019.

A person should be able to live on two MREs per day, but in extreme conditions such as cold, or high levels of activity, three MREs per day may be required.

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*“The thing that makes me happy is that I know that on Mars, two hundred years from now, my books are going to be read. They’ll be up on dead Mars with no atmosphere. And late at night, with a flashlight, some little boy is going to peek under the covers and read *The Martian Chronicles* on Mars.”*

– Ray Bradbury

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**Child Slave Colony on Mars:** “Yes. Someone has accused NASA of being ringleaders of a child slave colony on Mars. If you’re brain just melted and leaked out your ears leaving you in a catatonic state just from reading that last sentence, congrats, you’re not alone....

The idea that this conspiracy theory could even gain steam is one big advertisement for why we should just delete everything. That NASA had to spend one single second, had to expand the energy to simply pick up the phone and say no to this conspiracy theory is a good reason to shut down America for good this Fourth of July.” – Marcus Gilmer, “Of Course NASA isn’t running a child slave colony on Mars, you idiots,” Mashable, June 30, 2017.

- ✓ “On Thursday’s Infowars broadcast, Steele alleged the kidnapped children were not only being kidnapped for space labor, but also murdered for their blood and bone marrow.” – Ben Collins, The Daily Beast, June 30, 2017.
- ✓ “Jones spoke with Robert David Steele, who said the kidnapped children arrived on Mars after a 20-year journey through space... The two decades of travel would technically mean the hypothetical children were no longer children upon arrival, but regardless, the child slave colony is not real, so the math doesn’t really matter.” – Lauren Tousignant, “NASA Clarifies: We don’t have child sex slaves on Mars,” New York Post, June 30, 2017.

*“Mars ain’t the kind of place to raise the kids,  
in fact it’s cold as hell.  
And there’s no one there to raise them if you did...”*

– Elton John, “Rocket Man” (1972)

*“Mars has become a kind of mystic arena onto which we have projected our  
Earthly hopes and fears.”* – Carl Sagan, *Cosmos*, Episode 5

## Endnotes.

<sup>1</sup> Citation: See 1 Combat, p. 950, EN 13, *infra*, for discussion related to this Carl Sagan quote.

<sup>2</sup> Commentary & Citation: In May 2019, there were two sci-fi short films on YouTube called simply “The Emisary.” One was by Blue Ice Pictures, posted by BravoFact on December 6, 2017 (13 minutes) and the second was posted by Byran Tan (the producer/director) on March 29, 2019 (21 minutes, it even has an IMDB entry). The first involved the retrieval of a lost alien ruler from Earth, and the latter, reestablishing contact with humans who fled Earth a century previously due to tyranny, genocide and persecution. I liked both of them, despite the criticism of the second one as not being sufficiently science-fiction-like for some, and I recommend both to GGDM readers and participants. I also liked the two related CGI animated shorts, “Fortress” posted January 2015 (3 minutes) and “The Last Day of War” posted on June 24, 2016 (6 minutes) by Dima Fedotov (The CGBrothers, YouTube Channel).

- ✓ YouTube is loaded with sci-fi shorts – and I only watch them occasionally – it seems to have become the natural playground for aspiring auteurs (and an outlet for racists and conspiracy theory crackpots who would be met with opprobrium elsewhere, aspiring musicians, bits of dead television series and old movies, Hollywood movie trailers, science and history educators, etc.). DUST is very prolific with hundreds of sci-fi shorts, all very well done on their own channel; BravoFact focuses on Canadian productions, but not specifically sci-fi. Among these thousands of sci-fi shorts are probably endless circumstances, technologies, scenarios that might spark game-play ideas or story arcs for GGDM participants for in-game exploration.
  - I have no idea how these YouTube content producers make money on the sci-fi shorts, but I suppose there is a way. Bryan Tan claims to have built the set in his basement and his short contains only two amateur actors and a few outside scenes by a lake. But there is that issue again – monetization of ideas discussed previously in 3 The Big Bang – science-fiction content creators have made huge money from successful books and films, but science-fiction literature may still be one of the last remaining places where creative ideas have intrinsic value prior to monetization.

<sup>3</sup> Citation: “We do here settle and in the name of God establish ourselves; and in honour and for the memory of that most ancient and renowned name of our Mother Country, we do, and will from henceforward call this country by the name of Caledonia; and ourselves, successors, and associates, by the name of Caledonians.” – Dedication of New Caledonia colony (1698), from Wikipedia article, “Darrian Scheme,” captured June 25, 2018.

- ✓ *365 years later*: “Tonight we stand beneath a new heaven. After 150 years of calling out, the silence of the universe assures us that life is unique. We are alone. You and I are among the first to bring life to the stars – to this planet. The farthest any human has ever ventured. I know there are those at home who say that we are here only as a status symbol. Others say that we are fortune hunters, or that we’re running away. But I know we’re here because of faith – faith in each other, in a better world. The rocket fuel that brought us here can be burnt away, but our belief in ourselves, in one another, in the future, never can be; never will be.” – Dedication of Vesta Colony, Epsilon Eridani (2063), *Space Above & Beyond* (aka SAAB) TV series, Pilot Episode (1995).

- Is the date chosen by the writers, 365 years after New Caledonia, a coincidence?

<sup>4</sup> Citation & Commentary: “People are not little stones, or keys in someone’s pocket, that can be moved from one place to another just like that.... Therefore, we cannot precisely arrange for only Serbs to stay in one part of the

country while removing others painlessly. I do not know how Mr. Krajišnik and Mr. Karadžić will explain that to the world. That is genocide.” – Colonel-General Ratko Mladić, 1992 comments reported in article by Edina Bećirević, “Bosnia’s ‘Accidental’ Genocide,” Bosnian Institute (UK), September 30, 2006.

- ✓ Didn’t happen in the New World either; pale alien invaders Landed, made colonies, forced the natives out of their lands. The only thing that could have stopped the Europeans from landing – the destruction of their ships or a credible threat thereof – did not exist for the Native Americans. You already know the history well. The Cossacks know the history well, too.

<sup>5</sup> Citation: Destruction of Colony Ships *before Landing* is a Disruption Event for the origin colony of the population, see Vesta and Tellus, 2 Disruption, p. 274, *supra*. There is some grey area in this, if the colony ships were in another system when destroyed, would we assume that the original colony would know of it? That depends on what is assumed in the setting and the circumstances, e.g., FTL communications. However, Regular Turns in GGDM can represent very long periods of time, and the truth does have a way of hitting home eventually.

<sup>6</sup> Citation: “Crosby was an inter-disciplinary researcher who combined the fields of history, geography, biology and medicine. Recognizing the majority of modern-day wealth is located in Europe and the Neo-Europes, Crosby set out to investigate what historical causes are behind the disparity, investigating the biological factors that contributed to the success of Europeans in their quest to conquer the world. One of the important themes of his work was how epidemics affected the history of mankind. As early as the 1970s, he was able to understand the impact of the 1918 flu pandemic on world history. ... In 1972 he created the term ‘Columbian Exchange’ in his book of the same name.” – from Wikipedia article, “Alfred W. Crosby,” captured August 8, 2019. (cf. Jared Diamond).

<sup>7</sup> Commentary: The entire Peloponnesian War is bracketed between two entropic events: the 464 B.C. earthquake in Sparta which started the revolt (it was a sign from the gods, it was now or never for the helot revolt) that soured relations between Sparta and Athens, and the 430 B.C. Plague of Athens, though it took yet another generation until Athens surrendered in 404 B.C. The entire Peloponnesian war is bracketed between two Concierge Interventions...

- ✓ The exact cause of the Plague of Athens is not known, but is now believed by many experts to be typhus or typhoid fever. The Mahdi in Sudan, Muhammad Ahmad, over 2,300 years later, died in 1885 of typhus. So that bit of epidemic history is not far behind us. Alternatively, the other possible culprit, “viral hemorrhagic fever” – known as Ebola virus, made the news in 2016 with an outbreak in West Africa.

<sup>8</sup> Commentary: This is what made the Berlin Airlift (1949) so impressive. In an attempt at securing currency hegemony, the Soviets blockaded all ground and rail supplies into West Berlin and cut off utilities. After discarding military options to resolve the blockade, Western leaders began a massive humanitarian airlift of supplies into the city that lasted over a year. The Soviets were then placed into a position of either occupying West Berlin with Soviet troops, or shooting down unarmed humanitarian cargo planes, or doing nothing. Unwilling to risk starting a war with NATO, the Soviets did nothing while the airlift kept the population of West Berlin supplied and eventually exceeded pre-blockade supply levels. With no credible argument left, the Soviets backed down. The West German deutschmark was issued and West Germany recovered and grew into an industrial power.

- ✓ On July 1, 1990, the East German “ostmark” was abolished, and the West German deutschmark became the official currency of a reunited Germany. The reunification of Germany proceeded like a hasty annexation of East Germany by West Germany.

<sup>9</sup> Commentary: One difficulty with the Taiping Rebellion are the claims of the sizes of the armies involved in the campaigns and battles. I do not doubt the claimed losses, the ferocity of the total war, and the social and population upheaval and destruction caused by the war, but the claims of armies of half a million or that a million combatants were involved in various battles, armies that were not possible generally before mechanization (and greatly exceeded even those claimed in antiquity) – and I have seen no reference to rail supply and really no discussion of how such armies were fed (though the British did destroy an enormous hidden Imperial supply depot, Great Hsi-Ku Arsenal, during the later Boxer Rebellion) that would substantiate the numbers claimed – is difficult to accept.

<sup>10</sup> Commentary: And generates at least that much sewage. Or put another way, if you buy cat food, you have to buy cat litter. Or let the cat out.

<sup>11</sup> Commentary: Lack of appreciation of scale is central to all human environmental problems; the ability to visualize the individual footprint multiplied by millions and billions per day, multiplied by a thousand years. This is central to all issues from local recycling and reuse programs to global warming and climate change dynamics.