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*See Appendix CEX – Combat Example
See Appendix CST – Combat Shifts & Situations Tables*

“A’ warring for the heavens!”

– Megadeth, “Symphony of Destruction” (1992)

“The fact is, even in the old days, fully loaded, crewed and armed, the Andromeda was only an even match for a Pyrian Torchship. In case anyone hasn’t noticed, we’re not fully loaded, armed, or crewed, and the Pyrians have had three centuries to improve their technology.”

– Dylan Hunt, Andromeda, “Pitiless as the Sun” (2001)

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Era Warships: Warships are classified by Era; that is, there are 1st Era Warships, 2nd Era Warships, and 3rd Era Warships. The Era Warship represents the best of all of the technology and engineering of its Era. Positions, may of course, improve Era warships by use of permanent or expendable Enhancement Technologies,¹ and small improvements by use of Continuous Operational Technologies developed during the Era, such that, with skill and luck (see Army of Light, 2 Colleges, p. 479, *supra*), a 1st Era Warship might give a 2nd Era Warship a good fight.

- ✓ The Babylon 5 television series provides a clear example of ships from three Eras. During the Earth-Minbari War, the damaged heavy cruiser EAS Lexington – a basic 1st Era Warship of Earth Force – destroyed the Minbari warcruiser Black Star – a 2nd Era Warship – by luring them into an ambush of nuclear mines. Some of the stiff-necked Minbari took exception that the Earth Force ship didn’t defeat the Black Star in a fair fight.² The 3rd Era Warships of Babylon 5 belong to the Shadows and Vorlons, the last remaining first races. One would assume that Minbari ships have as much chance against Shadow or Vorlon warships as Earth Force warships had against Minbari warships. Centauri and Narn warships are larger, advanced 1st Era Ships.

A historical example of earlier Era warships defeating technologically superior enemies is the Battle of Campeche in 1843. During that battle, two sailing ships, a Sloop-of-War and a Brig of the Republic of Texas Navy, defeated two steam warships of the Mexican Navy, a wooden-hulled ironclad and an iron-hulled paddle-wheeler that were manufactured by Britain and crewed by British sailors. It is the only known battle where sailing ships defeated steam ships.

- ✓ On the flip side, 16 years earlier in 1827, a British-French-Russian allied naval force of 22 warships defeated a poorly-armed Ottoman-Egyptian fleet of 78 warships (plus fire ships and smaller boats) in close range combat at the strange Battle of Navarino Bay – after the allied fleet deliberately sailed into an obvious classic trap and dropped anchor close in front of the enemy ships and flanking shore batteries – sinking two-thirds of the Ottoman and Egyptian ships in a couple of hours while silencing the shore guns. This was the last massive fleet battle between sailing ships. Effective numbers of the Ottoman-Egyptian fleet are uncertain, but regardless, the battle wasn’t close, they were very badly mauled.³
- **First Era Warship:** The 1st Era Warship Patent is an Existential Patent which positions may obtain before the game begins. Whether that is a wise choice or not depends on subsequent events; everyone wants ‘peace in their time,’ players may agree on a utopian peaceful game of exploration, but if the other guy has a warship, no matter what his intentions, you have to

have one too, just to be sure. Warship Patents are Physical Item Technologies (PIT) as they create the basic units of the game. See View from a Height, 1 Construction, p. 660, and Physical Item Technologies and Technological Devices, 2 Patents, pp. 739, 741, *supra*, regarding game units. Each position will need to develop their own PIT Patent for 2nd and 3rd Era Warships, pursuant to the rules of this section and the applicable *Uber Alles*.

- ✓ Completion of the 1st Era Warship Existential Patent allows a position to build warships at any sovereign colony that has an Orbital Shipyard, for 30 RPs.
- Ship of the Line: Warships produced by use of the Era Warship Patents, are assumed to be the average, middling ships of the line of the Era.
 - ✓ The term “ships of the line” dates from 1706 according to Merriam-Webster online dictionary; an oddly late development in the Age of Sail, classically 1571 to 1862.

Positions are free to develop Patents for specific classes of ships, for example, Battle Cruisers, Dreadnoughts,⁴ Death Stars, Warstars, Powerstars if you like, SDFs, Heavy Cruisers, Missile Ships (see 4 Carriers & Fighters, p. 1081, *infra*), Juggernauts, Birds of Prey, Berserkers, Sentinels, Guardians, Hulkers, Flag Ships, Magog Assault Ships, Gosroth Patrol Ships, War Rigs, whatever suits the tactical, economic, and strategic needs (and sounds cool).

- Magnitude of Eras: The difference between warships of successive Eras is not just a slight or a linear improvement in capabilities, rather, the difference between a 1st Era Warship and a 2nd Era Warship is a systemic order of magnitude,⁵ progress in warship technology of each Era is near exponential. Second and later Era Warships may gain new dimensions of capability over their predecessors due to the *Uber Alles* of their Era (see 2 Eras, p. 767, *supra*).
 - ✓ A distinction can easily be made by historical example. In 1853, a Russian fleet armed with Paixhans guns – the first naval gun to fire flat trajectory explosive shells, annihilated an Ottoman fleet at the Battle of Sinop, 30 years after the gun was invented, dispelling all remaining doubts. Only the Russian, French, and United States navies had Paixhans guns on ships at that time, Commodore Perry had Paixhans guns on the expedition to Japan in 1853. After Sinop, the British and other navies were in a race to ‘up-gun’ their ships; in GGDM terms, this would be an Enhancement Technology. It was the later addition of steam power (there were a few armed steamers at Sinop), plus iron armor (defense against Paixhans shells) and the invention of the gun turret (independently in Britain and the US) that completed the 60-year evolution to the metal, turreted, steampowered, oceangoing warships of WWI (2nd Era Warships).
 - ✓ The HMS Dreadnought was launched in 1906, the first modern battleship, which gave its name to a class of similar ships built between 1906 and 1920. The HMS Dreadnought made all other ships – retroactively called pre-Dreadnoughts (ships built between 1880 and 1905) – instantly obsolete. Eventually the original term battleship reasserted itself as the name for the largest capital warships in the naval lexicon.

Warship progression in the last two centuries is perhaps one of the most obvious examples of Era differences. The fleets that fought at Jutland in 1916 would have stood little chance against the fleets that fought at Midway in 1942 or later. The Era difference provides the stark dramatic choice in the 1980 movie, *The Final Countdown*: The USS *Nimitz* is pulled back in time to the day before the Pearl Harbor attack,⁶ the captain must decide whether his duty to defend the United States exceeds the possible historical and temporal calamity of the

Japanese attack fleet being smashed (there would be little contest) by the 100,000 tonnes nuclear-powered, missile-armed, supercarrier from the future.

- ✓ “A range of 4,000 yards had been considered long at Tsushima...” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 712 (see EN 4, p. 966-967, *ut infra*).

In a government-made video available on YouTube, produced around 1960, the 122mm recoilless Davy Crockett anti-tank gun fired a very small yield nuclear warhead at a target 4 kilometers away (“M388 Davy Crockett Operational Test,” posted by jaglavaksoldier). A single Davy Crockett would defeat a ship at the Battle of Tsushima, 1905. Mike drop.

- ✓ In Science Fiction: The Andromeda television series had the most integrated, advanced technology and is perhaps one of the better mainline sci-fi examples of 3rd Era Warships, alongside the Vorlons and Shadows in Babylon 5. I don’t know where the Death Star stands in terms of Eras in GGDM, it was huge, but didn’t seem greatly advanced – other than its power core – compared to the technologies displayed in later sci-fi settings; I am sure the Death Star and Battlestar Galactica would easily both lose to the Andromeda, or any Shadow or Vorlon ship. Or even a Borg Cube. There are many of these cross-universe battle videos, comparisons and discussions on YouTube, it’s a nerd sub-genre that people argue about in the comments sections.
- Era Inflation: The cost of warships will also increase by magnitudes by Era progression:
 - ✓ For example, suppose a Corvette model of the 1st Era Warship cost 16 RPs to construct, the comparable 2nd Era Warship would cost 25 RPs and the 3rd Era version should cost 36 RPs. That is, the 1st Era Matrix is 4x4 and has spaces for 16 Applications (see #IGY, 1 Eras, p. 757, *supra*), the 2nd Era Matrix is 5x5 and the 3rd Era Matrix is 6x6 with space for 36 Applications. Alternatively, if the cost is based on connections in each Era, the 1st Era Warship would cost 42 RPs to build! *Id.*

Destruction of a superior Era warship by a lower Era warship can be a form of economic victory. In 1916, the German Empire claimed victory at the Battle of Jutland on the basis that they lost less ships and men than the British (in tonnage sunk); despite this claim, the German High Seas Fleet remained bottled up in port, and never challenged the British again. The Germans instead changed to unrestricted submarine warfare... See also ship building rate discussion, Shipbuilding and Strategic Shipyarding 3 Construction, pp. 675-676, *supra*.

- ✓ “Paradoxically, the Germans had invested so much into the capital ships that they had essentially become too valuable to risk and thus, ineffective.” – Narrator, “The Battle of the Barents Sea” (1942), vandpubsell YouTube channel, December 7, 2019.

“Captain Sheridan, this is an emergency transmission. President Clark is dead. He took his own life before we could arrest him. But he left a message on his desk. Two words. ‘Scorched Earth.’ Captain, I believe he’s turned the defense grid toward Earth. We can’t override the systems here. If you don’t stop them, they’ll fire in 10 minutes. Captain, the particle beams on those defense platforms can level 40% of the planet’s surface. You have to stop them before they can fire!”

– Senator Crosby, Babylon 5, “Endgame” (1997)

Colony Defense Bases: Colony Defense Bases are the colony's main and last defense against aliens or enemy warships.⁷ Colony Defense Bases are considered installations, and are built on sovereign colonies by activation of the Construction Power for the purpose of Colony Enhancement. There are three Defense Base Existential Patents available: Ground Defense Base, Orbital Defense Base, and System Defense Base (detailed previously in 2 Construction, p. 668, *supra*).

- ✓ Ground Defense Bases are on or under the surface of the colony Planet which limits their effectiveness against warships, but they are important as a defense against Raiders and in Ground Combat.
- ✓ Orbital Defense Bases may/must have some orbital maneuvering capability, but obviously cannot leave the orbit of their colony. They control the planetary approaches.
- ✓ System Defense Bases are huge, heavily armored, imposing, and are placed farther out (perhaps at Lagrange Points⁸) to keep attackers at a safe distance from the colony.

Bases *do not have* Constructural Elements, using their colony's instead, magnifying the effect of an inactive Epistemological Constructural Element at their colony. Defense Bases may receive the benefits of permanent and expendable Enhancements, and new Continuous Operational Technologies improvements, as appropriate. Positions may develop variations and new levels of Defense Bases, and other defenses, by use of Patents. Defense Bases may not initiate combat against either ships or colonies *on other planets*. Though that would be a cool ability....

- ✓ Although Defense Bases are Colony Enhancements, an enhancement to a game unit (see View from a Height, 1 Construction, p. 660, *supra*), they are treated as 'units' in combat; 'units' in combat (or combat unit) is not exactly the same as a game unit; a *combat unit* is one capable of combat interaction with the enemy, which is not the same as initiate combat. Thus, Defense Bases are 'combat units' not capable of initiating combat. Not all 'combat units' have their own Constructural Elements.

However, per the Babylon 5 "Endgame" quote above (and a few score other sci-fi stories), it may be possible for at least Orbital Defense Bases to join or initiate combat against **alien colonies** *on the surface of their planet* or in Orbital Cities. In fact, this is similar to a concern holding up construction of a proposed asteroid defense system on Earth, it is called the Deflection Dilemma (see 2 Construction, p. 669, *supra*). Participants can address these issues in the game story.

➤ **Colony Defense Era Upgrade:** All three types of Defense Bases are available to positions in the 1st Era through Existential Patents. Unlike warships, Defense Bases do not have an 'Era progression' arc (that is, no PIT Patent is needed for 2nd Era Ground Base, etc., positions only need one of each Defense Base Patent), and would soon become obsolete, except that, upon reaching the next Era, *existing* Defense Bases can be upgraded to the position's current Era by use of an activation of the Construction Power for the purpose of Colony Defense Era Upgrade using one Act and one Scene on the sovereign colony where the upgrade occurs.

- ✓ Colony Defense Era Upgrade never includes or effects Fighter Complements, see Next Generation Fighters, 1 Carriers & Fighters, p. 1048, *infra*.
- ✓ The cost of upgrading a colony's Defense Bases one Era is 25% of the collective cost of building all of the Defense Bases originally (fractions truncated).

The game can be adjusted to suit the players or through collective experience. The primary aspect to understand is for each colony to be upgraded, the cost is an Act, Scene, Power Ac-

tivation and RPs. For a position with a large number of colonies and/or heavily defended colonies, this will be costly. Choices will need to be made against other pressing needs, risks assessed, some may be left behind. The percentage can be adjusted between 10% and 50% of the original collective cost of the Defense Bases – either because participants want a more or less defensive game or because play experience (*the crucial element lacking during this design process*) demonstrates that the base 25% cost is either too high or low.

- ✓ A Defense is only as strong as its weakest point; therefore, all of the colony's Defense Bases must be upgraded to the next Era, before any of the colony's Defense Bases can gain the benefit of the next Era in combat.
- ✓ Upgrading a Colony's Defense Bases may be done in installments with several activations of the Construction Power for that purpose, but no benefit is received until the upgrade has been completed.

The primary problem with Colony Defense Era Upgrade is that it is a construction project, and thus location specific, with local GDP limitations, and requiring activations of the Construction Power on specific colonies using Scenes. There are no shortcuts. Thus, it is most efficient to complete upgrades with one Power Activation.

- ✓ Colony Defenses cannot be upgraded two Eras with a single activation of the Construction Power for the purpose of Colony Defense Era Upgrade. Thus, colonies that have 1st Era Defenses will need two *completed upgrades* to be brought up to the 3rd Era when technology has progressed to the 3rd Era.

GGDM design is built throughout on a balancing system of two-tiered asymmetrical relationships, cf. warship and defense base era progression.

- New Era Bases: New Defense Bases may be constructed at any eligible colony *after* a colony defense has progressed to the next Era; these Bases will cost the same as their predecessors, but the additional cost must be paid to upgrade them when upgrading the colony defenses (i.e. no free upgrade). Defense Bases built in the new Era will not receive any benefits of the new Era in combat until the entire Era upgrade is completed at their colony.

“With possible exception of the Crimean War, the Gallipoli expedition was the most poorly mounted and ineptly controlled operation in modern British military history. Surprise had been lost even before the inception of the plan, for a premature bombardment of the outer Dardanelles defenses early in the war (November, 1914) had awakened both Turks and Germans to the danger.

Under Liman von Sanders' competent direction the fortifications had been vastly strengthened. The prize was a rich one, for success would mean keeping Russia in the war and probably knocking Turkey out; its attainment should have been confided in a single commander, provided with the best of means. Instead, with improvised organizations, both naval and army commanders worked independently. ...

Back in the war office, Kitchener failed to assure compliance with logistical, strategic and tactical fundamentals of mounting an expeditionary force. And he refused Hamilton's requests for adequate forces and staff officers.”

– Dupuy & Dupuy, *Encyclopedia of Military History* (2nd Rev. Ed., 1986), p. 955

Defending the Obsolete: ‘Obsolete’ defenses are not automatically vulnerable to attack, even by ships of a later Era. There are many political, economic and military factors that might also affect the outcome.

The Ottoman defenses at the Dardanelles were mostly obsolete, with only 14% of the guns of newer design, limited ammunition, and somewhat inadequate protection and night illumination. The Inner Defenses were the most outdated and of limited range. However, the attacking Allied naval forces were a mixture of new and obsolete ships as well and the minesweepers were civilian trawlers. The preemptive attack in November 1914 alerted the Ottomans to the threat and they added more minefields, brought up more ammo and field guns and tried to upgrade their protection.

More Allied attacks in February and March 1915 failed to clear mines or meaningfully damage the defenses with indirect naval gunfire. On March 18, 1915, the Allied naval forces made an all-out final attack on the Ottoman shore defenses, but were repulsed by several factors, including the combination of shore guns fire, underwater mines which struck several ships that turned starboard (the defenders had noticed the pattern in previous attacks), the inability to clear mines in front of the advance, and some timidity by the Allied naval commander. After the attack, the Ottomans retained several layers of naval mines the Allies had not reached, and defenses which had not been engaged at all.

The allies called for ground troops which landed in two places on April 25, 1915 under mostly ineffective naval gunfire, while between April and May 1915, three Allied battleships stationed off the Gallipoli beaches were sunk by torpedoes, and the permanent fire support of the battleships was lost when the ships withdrew. As history records, the campaign of Gallipoli to flank the fortifications on the land side, became an infamous debacle, with the Allies withdrawing after ten months, with 200,000+ dead and 110,000 evacuated as sick.

- ✓ Information and specific figures taken from Wikipedia articles, “Gallipoli Campaign” and “Naval operations in the Dardanelles Campaign,” on December 26, 2018, though I am, of course, familiar with the campaign from several history books of my youth. This is generally true of most subjects on which I comment and cite to Wikipedia articles, I possess a pre-Internet and non-Wikipedia base of learning against which Wikipedia serves as a refresher and a source of specific facts and figures.
- ✓ The attempted Kriegsmarine attack on Oslo in 1940 bears some similarity to the British attempt to force the Dardanelles in 1915, excepting that the Germans execution all around was far better than the British, they had actual surprise, and air power made a huge difference in the outcome.

“He who defends everything defends nothing” – Frederick the Great

Defending the Nothingness: The weakness of a chain is its weakest link. Colony Defense Bases are a *cordon defense*.

- ✓ “From such a disposition, consisting of several detached posts, to the cordon system, there is still certainly a considerable step, but it is one which generals, nevertheless, often take without being aware of it, being drawn on from one step to another. First, the covering and the possession of the country is the object of the dispersion; after-

wards it is the security of the army itself. Every commander of a post calculates the advantage which may be derived from this or that point connected with the approach to his position on the right or the left, and thus the whole progresses insensibly from one degree of subdivision to another. A cordon war, therefore, carried on by the principal force of an army, is not to be considered a form of war designedly chosen with a view to stopping every blow which the enemy's forces might attempt, but a situation which the army is drawn into in the pursuit of a very different object, namely, the holding and covering the country against an enemy who has no decisive undertaking in view." – Carl von Clausewitz, On War (1832).

- See also Areal Phenomena, 2 Carriers & Fighters, p. 1062, Under Your Desk, 4 Carriers & Fighters, p. 1085, *infra*.

In military matters, half-measures are rarely effective. There may be cases where even funding a basic bare defense force is of little use. Some GGDM participants may pin their hopes on non-military survival, seeding space, racing ahead in non-military technologies, for example.

- ✓ 1864 and April 9th: The situation in the Second Schleswig War of 1864 (subject of the Danish television series 1864 (2014)) and the German invasion of Denmark on April 9, 1940 (subject of the Danish movie, April 9th (2015)), separated by three quarters of a century, is little changed. In 1864, in addition to outnumbering the Danish forces, the Prussians were using breach-loading rifles which allowed them to reload while laying prone, whereas the Danish forces were still using muzzle-loading rifles which required them to stand while reloading. Thus, the Prussians had both a technological and numerical superiority on land (the Danes had naval superiority), while the defenders were patriotic and brave, they were doomed by leadership and equipment failures, and by population and industry disparity. In the movie April 9th, a platoon of Danish troops on bicycles, with rifles and a light machinegun, supported a unit on motorcycles, with a couple of light machineguns and a 20mm sidecar mounted gun. The Danish troops had bolt action rifles and limited ammunition, and apparently no grenades. They were facing German troops with armored cars, motorized infantry, and a Panzer II tank, it is likely that most of the German troops were also carrying bolt action rifles in early 1940, the switch to assault rifles did not occur until 1941.

Although the following is about Holland *in a different era*, Lynn Montross makes the point well:

- ✓ “But genius alone could not atone for the inferiority of Dutch ships, or the penny-wise policies of the merchants ruling the republic. Although Blake and Monk were beaten twice and severely handled even in their four victories, England was able to impose humiliating terms of peace. The temporary ruin of her commerce and fisheries taught Holland a lesson which led to reforms before the struggle was resumed twelve years later. Nevertheless, De Ruyter labored under handicaps which he overcame by sheer skill and audacity.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 330.
- ✓ And in early 1940: “But it is hardly necessary to add that the soldier is not the unit of today's warfare – In Poland the German advantage in numbers was less than two-to-one, as compared to a superiority of perhaps thirty-to-one in mechanical horsepower. The French and British had but three armored and three mechanized divisions in the spring of 1940 to oppose twelve German armored divisions, each with two and a half

times as many tanks. A much greater ratio of superiority was enjoyed by Hitler's mechanized units and air squadrons. Even in such defensive weapons as antitank and antiaircraft guns the Germans held an enormous advantage over armies which relied upon a defensive strategy. Altogether, it seems safe to assume that the Wehrmacht and Luftwaffe began the campaign with material odds of at least five-to-one in their favor." – Lynn Montross, *War Through the Ages* (2nd Ed., 1946), p. 796 (this paragraph appears to have been edited out of the 3rd Ed., 1960).

- ✓ *Speed advantage alone should not be underestimated*, speed kills quickly: "It has been suggested that if the generalissimo had been ready with a central mass of manoeuvre, he might have stopped the foe at Sedan. But the speed of enemy motorized advances, as compared to Allied movements, makes this hypothesis doubtful. It must also be remembered that the defenders were at a tragic disadvantage in tanks, planes and artillery. Above all, time had beaten France – the lost months before the war, the lost days of the early phase, and now the lost hours against a foe who did not lose minutes." – Lynn Montross, *War Through the Ages* (2nd Ed., 1946), p. 801 (rewritten section appears on p. 811 in the 3rd Ed., 1960).

This is a professional journalist and historian's polite way of saying the Germans ran circles around the French in 1940. The French plans still relied on timetables set for railway mobilization and supply; the Germans had not only mechanized/motorized their forces, but also had air superiority to bomb railroad bridges and stations to disrupt French national mobilization.

- ✓ Cordon colony defenses are defeated in detail by concentration of force; the attacking fleet concentrates against one sector at a time, eventually eliminating all Defense Bases.

Master: *What do you think is the best coastal defense?*

Student: *Building forts along the country's shores and equipping them with modern cannons.*

Master: *Wrong! Japan is surrounded by seas. You can't keep them out by building forts. Fool.*

Student: *Then let me hear your thoughts, what is the best defense?*

Master: *The Black Ships. [Referring to Commodore Perry's expedition specifically, and Western ships generally]*

Student: *What?*

Master: *Repel those who come by sea in the sea. Japan should build her own black ships and form a navy.*

Master: *By knowing their mechanism and technology, there is no way we cannot make what the Westerners make. That includes the Black Ships. ... We should use him [Napoleon Bonaparte] as a role model and educate ourselves in Western arithmetic, science, military and medicine. And those who want to shoot cannons can go elsewhere.*

Student: *I get it, that's what we lack. More than the number and skill of shooting cannons, but the knowledge base or knowledge of foreigners.*

– dialogue from the Japanese-language tiaga drama series (with English subtitles) *Yae no Sakura* (2013) in Episode 1⁹

Islands of Resistance: Colony defenses are ‘islands of resistance’ on the strategic level, a Besieged Colony is basically a failed colony attack, and unconquered colonies continue to pump out resources and ships for the enemy; bypassed colonies do so in your rear.

Ongoing Ground Combats, Pacified or Converted colonies with insurgencies (see Green Zone, 2 Order, p. 541, *supra*, and Fabrication of Order, 6 Combat, p. 1022, *infra*) are like the ruined villages of the Spanish Civil War or the Eastern Front in World War II, irritating and sniping:

- ✓ “This precept was taught to recent civilians – Spanish peasants and workers who had the courage to turn ruined villages into improvised fortresses after the mechanized forces swept past. Soon the attackers had to send back strong detachments to cope with snipers preying upon their flanks and rear. One such strongpoint could be reduced without too much cost; but when every village became, in military jargon, an ‘island of resistance,’ the attack was bled of its impetus by the detachments needed to battle their way from house to house in bitter street fighting. Neither tanks nor armored cars were of much use in such operations, and the assailants usually suffered heavier losses than the defenders.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 775.

When considering the cost of warships vs. colony defenses, players should consider that colony defenses are strategically static, though necessary, whereas warships are mobile, can disperse, concentrate and maneuver, and represent the ability to project power to the enemy areas. This is the classic defense vs. power projection problem.

“To ravage, to slaughter, to usurp under false titles, they call empire; and where they make a desert, they call it peace.”

– Publius (or Gaius) Cornelius Tacitus on the Carthaginian Peace

Combat Categories: There are six types of combat: Ship Combat, Colony Combat, Orbital Bombardment, Ground Combat, Colony Pacification Combat and Raid/Strike Combat. Any Combat Power Activation that allows for the initiation of Combat will, under qualifying circumstances, allow the initiation of any of these types of combat, which location, target position and/or colony, and type must be specified in the Regular Turn Actions (except Initiate Combat), along with all participating attacking units. Additionally, first round combat orders must be included.

- **99 Luft Balloons:** Ship Combats are between ships of at least two sides in *system space*; at least one participant in a Ship Combat must be able to initiate combat in system space. These are the classic naval combats from short skirmishes, ship duels, to great fleet battles. A Ship Combat is not a direct attack on any colony, thus Defense Bases may not participate in a Ship Combat, but some units (e.g., Fighters¹⁰) based on colonies may initiate or join Ship Combat. A Ship Combat ends when all of the units of one or both sides have been destroyed or have retreated (this could occur simultaneously in some instances).
 - ✓ During Ship Combats, each ship uses its own Epistemological Constructural Element status to determine whether or not it can receive the effects of Enlightenment during the combat (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*). This may have the effect of reducing the use of Enlightenment as applicable during the combat

and/or channeling application of Enlightenment to certain units (which will perform better or even heroically).

See definition of warship discussion, Warships, 1 Combat, p. 941, *supra*. Per the previous discussion in The FTL Missile, 2 Movement, p. 849, *supra*, ships in interstellar flight (FTL) cannot be affected, and combat cannot occur during FTL or in interstellar space. Thus, Ship Combats are only fought in system space.

- ✓ All Fighters in GGDM are assumed to be both space fighters and atmospheric fighters (like in most science-fiction television and movies), see Fighters, 1 Carriers & Fighters, p. 1046, *infra*.
 - ✓ Losing a Ship Combat in a system where there is a colony is a Disruption Event at the colony, see Burning Sky, 2 Disruption, p. 275, *supra*.
- **Panic Bells, It's Red Alert:** Units which were victorious in a Ship Combat may immediately initiate an attack of any available type against any colony in the same system unless warships remain in the *system space* that belong to the owner of that colony. A Colony Combat may never be initiated if the colony's owner has warships in the system, *unless all of those warships are currently engaged in other Combats*. The attacker also must have at least one remaining unit that is capable of initiating combat. This follow-through Colony Combat does not require a separate activation of the Combat Power for initiation, it is all the same operation. To attack other ships, however, would require a Combat Activation.
- ✓ Ships that successfully retreat from a Ship Combat must either retreat to a colony (and are located at the planet) or leave the starsystem, see Ship Zipped, 3 Combat, p. 982, *infra*. Other ships may remain in the system that did not join the Ship Combat.
 - ✓ While other alien warships in a system may pledge to defend any colony, for game purposes, only the ships belonging to the owner of the colony can be counted to stop the attack on the colony. If desired, other alien forces or arriving reinforcements can initiate combat against the colony attackers aiding the defense (or not).
- **Something Here from Somewhere Else:** Colony Combat is an attack on a colony by warships (or armed system boats from a tender starship or another colony) with the intent of damaging or subjugating the colony. Defense Bases may not initiate combat against warships. The Colony Combat ends when either the attackers have all retreated or been destroyed, or all colony defenses, except Ground Units (see GROPOS, 4 Combat, p. 985, *infra*) have retreated (i.e. ships) or been destroyed. The defenders in a Colony Combat have no retreat usually, Defense Bases in particular may never retreat, but defending Fighter Components and any ships (*ut infra*) may retreat from the Colony Combat; Fighter Complements may only retreat from a Ship Combat to the colony or a Carrier (thus, effectively, they may not retreat from a Colony Combat at their colony unless to a Carrier or another colony). The attacking warships may end the attack by retreating to system space.
- ✓ If a colony has at least one System Defense Base, *only* System Defense Bases and Colony Fighter Complements may be attacked in the first round of a Colony Combat, and *only* System Defense Bases and Colony Fighter Complements may return fire in the first round of a Colony Combat. System Defense Bases can be defeated in detail.
 - ✓ Ground Defense Bases may not fire until the second round of any Colony Combat, but may execute Close-in Defense fire against Missile and Fighter attacks on them.

They may only be attacked in the first round of a Colony Combat *if there are no Orbital or System Defense Bases*.

- ✓ During a Colony Combat, the status of the Epistemological Constructural Element of the *colony* is used to determine whether or not the colony's Defense Bases and Fighter Complement can benefit from Enlightenment (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*) or NSF acting as Faculties (see The First is Last, 3 Colleges, p. 493, *supra*) during the combat. If the Colony Combat lasts to the next Regular Turn, the owner of the Colony may attempt to reactivate an inactive Epistemological Constructural Element at the colony by Cohering (see 5 Culture, p. 421, *supra*).
- In This Dust That Was a City: Orbital Bombardment is not really a combat, but is listed as a type of combat because it requires the *affirmative activation* of the Combat Power to initiate the ⚡bombardment. Orbital bombardment only lasts one Combat Round, there is no retreat option for either side, and each attacker only gets to fire once at the target planet. Orbital Bombardments may only be commenced on 1) colonies on which only Ground Units remain as defenders or on Conquered Colonies or 2) planets with no colonies. The intent is to kill the population *on the surface* of (i.e. 'de-infestation of the planet') and/or damage the *planet surface* (i.e. 'planet terraforming'). A planet may be Orbital Bombarded any number of times.
 - ✓ Orbital Bombardment Combat always ends after the first Combat Round with the 'retreat' of the attacking units. Orbital Bombardment may be initiated against the same colony multiple times in a Regular Turn by the same units with appropriate Combat Power activations. This is the only instance where a unit is allowed to initiate multiple combats in a Regular Turn when not a follow-on combat (*ut supra*).
 - ✓ Orbital Bombardment cannot be used for, and should not affect, Orbital Cities or any other Orbital Platforms or anything in orbit around the target planet; destruction of unprotected orbital targets can be accomplished by Ship Combat using the civilian target rules, 3 Combat, p. 978, *infra*, or by Strike Combat using Fighters or Ship Missiles, see World in Flames, 4 Carriers & Fighters, p. 1083, *infra*.

If the colony has any Defense Bases, System Boats or Fighter Complements, GGDM *assumes* that they will try to prevent Orbital Bombardment as an existential threat. The attacker would first be required to eliminate the colony's defenses by Ship Combat and/or Colony Combat before Orbital Bombardment.

After the wars, genocide, and pandemics of the 20th century, deaths of millions are no longer impressive to us (e.g., WWII – 75 million dead, 1918 Spanish Flu Pandemic – 17 to 50 million worldwide,¹¹ death toll of the first *two hours* of WWIII – about 300-500 million); science-fiction trope has moved onto billions of deaths and planetary destruction. The Concierge will adjudicate surface damages from Orbital Bombardment, but for guidance, each:

- ✓ 1st Era Warship involved will destroy 3 population factors,
- ✓ 2nd Era Warship involved will destroy 7 population factors, and
- ✓ 3rd Era Warship involved will destroy 12 population factors.
- ✓ Surface installations may be destroyed by Orbital Bombardment as well.
- ✓ There can be, probably will be, collateral damage to other colonies present on a Balkanized planet surface, in addition to environmental damage to the planet.

- ✓ The Maximum Habitability of the Planet will be reduced accordingly for all lost populations, and the Habitability Class will be reduced for (most) other positions by one class for every 20 population destroyed. Orbital Bombardment may trigger multiple Disruption Checks on the Conquered Colony, see Peaches for Mad Molly and Mars Bombing Run, 2 Disruption, pp. 273-274, *supra*.

Obviously, there is no need to commit Enlightenment to the ‘unenlightened’ Orbital Bombardment Combat, as there are no die rolls! ☺ Anyone seeing the planet in the future will be informed that it has been damaged by Orbital Bombardment (like moon craters). Ships that participate in Orbital Bombardment of any (regardless of Native Population Type) have a chance of *apostasy*, see Alieney Apostasy, 3 Disruption, p. 283, *supra*.

- ✓ “There was a time when people were impressed I had enough firepower to decimate a planet in under 10 minutes. I miss that.” – Rommie (sapient AI holographic ship avatar), Andromeda, “Point of the Spear” (2003).
- And Here Is A Red Balloon: Ground Combat and Colony Pacification Combat will be discussed in the next section. Raid/Strike Combat is discussed in 4 Carriers & Fighters, *supra*.

[After the alien mothership is hit by a nuclear weapon and crashes into the city...]

Elaine: *What... What is it?*

Jarrold: *They're not dead. They're just really, really pissed off.*

– Skyline (2010)

The Bomb: I’ll bet they are, but they (Elaine, Jarrod, and all the other humans in the apartment) should be dead from the nuclear blast (look up the atomic shadows of Hiroshima). Or they will be soon from the radiation if the aliens don’t get them first... They should be permanently blinded too since they were watching the attack (one of them through a telescope who was only temporarily blinded! – bad filmmaking), but that doesn’t matter if they are dead anyway.

Strictly for the purposes of initiating Orbital Bombardment, the Native Population Type on the target colony or Balkanized planet is irrelevant (thus, *apostasy* may be triggered by the Orbital Bombardment of *any* colony, see 3 Disruption, p. 283, *supra*). But here’s the Bomb:

- ✓ Orbital Bombardment of planets with Friendly or Naturalized Colonies will and must have major legitimacy ramifications, *even if they are not the target*. See previous “Supra-Legitimacy” discussions in Type 3 Fundamental Realities, 3 Beginnings, p. 42, Naturalization, 3 Order, p. 557-558, Meta Aspect, 4 Culture, p. 409, and Earthly Entanglement, 2 Government Titles, pp. 586-587, *supra*. The tough question to be answered is whether this will be accepted as a necessary and legitimate use of force?
- ✓ Or alternatively, under what circumstances is bombing your own population or enemy-occupied friendly areas a legitimate use of force? When is collateral damage and risk to your own colony acceptable in Orbital Bombardment of an **alien colony**?
- ✓ In modern combat, aerial and artillery bombardment of occupied areas is accepted as an unfortunate necessity, but what about more extreme situations, for example, would a government ever be justified in detonating a nuclear weapon on its own cities, as in the movies Independence Day (Houston) and Skyline (Los Angeles), or carpet bomb-

ing Manhattan with MOABs (Massive Ordnance Air Blast, aka Mother of All Bombs – that is, fuel bombs, aka ‘the poor man’s nuke’), as in the movie *Cloverfield* (the “Hammer-down Protocol”)? How about habitability damage to Balkanized worlds where a sovereign or Friendly colony is located?

- ✓ This question must be adjudicated by the Concierge within the context of the story and culture for each instance, with appropriate game solutions ranging from generation of an IP+ to difficulty in future naturalizations to loss of legitimacy of Government Titles and/or Diplomatic Spaces.¹² Such an act will not be soon forgotten.

The figures for damage from Orbital Bombardment are just figures for game convenience. They can be adjusted for whatever reason. Here is the real science:

- ✓ A meteor 60 miles wide hitting the Earth releases 10^{31} Joules of energy, this is the apocalypse scenario for the Earth as the resulting shock and heat wave plus the burning debris thrown into the air would annihilate all life on Earth. The meteor that drove the dinosaurs to extinction was *only* 6 miles wide, and the flaming debris that rained down boiled the surface of the Earth.
 - “Asteroids have us in their sight. The dinosaurs didn’t have a space program, so they’re not here to talk about this problem. We are, and we have the power to do something about it. I don’t want to be the embarrassment of the galaxy, to have had the power to deflect an asteroid, and then not, and end up going extinct.” – Neil deGrasse Tyson.
 - See also Deflection Dilemma discussion, 2 Construction, p. 669, *supra*.
- ✓ The Chelyabinsk meteor, which struck in a less inhabited region of the globe in 2013, had an atmospheric impact force equal to a 400K explosion; the shockwave injured about 1,500 people and damaged many buildings; imagine if the impact had occurred in Western Europe, North Eastern United States or China, or the southern Indian or California coast? Or if it was just one of a rain of impacts in a small populated area?
- ✓ It is not difficult then to imagine the damage that could be done from space with mass drivers (nuclear weapons are not really necessary at that height) bombarding the planet, or by a starship that accidentally or intentionally collides with the planet at high speed. Or by an errant shot in combat or Raid on the wrong target. When science-fiction writers occasionally use this theme, they are not exaggerating the dangers.
- ✓ The figures used here were taken from “An Asteroid Will Not Destroy the Earth Today,” by Angela Fritz, atmospheric scientist, writing for the Washington Post, April 19, 2017 and Wikipedia article, “Chelyabinsk meteor,” captured February 9, 2018. Mass driver bombardment was introduced to television sci-fi by *Babylon 5* TV series.

Whether colonies on Balkanized planet surfaces can be bombarded without damaging others is a question to be adjudicated by participants based on the technology used and other factors, such as whether the planet is near Maximum Habitability; reduction in Habitability Class could affect other non-targeted colonies on the planet. Once the rule is established for the game, others can do the same. For example, the ‘clean’ destruction of Moscow by the alternate universe Daniel Jackson in the *Stargate SG-1* episode “Absolute Power” (2001) the relevant part of which is feature quoted at the end of 3 Combat, p. 983, *supra*, using Earth’s new orbital defense system.

“The security dilemma refers to two related ideas. The first is very simple: Things that one state does to make itself more secure typically have the effect of making other states less secure. ... The second is about how this fact could lead states whose leaders are both basically interested in maintaining a non-conflict status quo to end up in a very costly war.”

– James D. Fearon, “The Big Problem with North Korea isn’t that we can’t trust them. It’s that they can’t trust us,” Washington Post, August 16, 2017

“Yet, there is a point at which hope must give in to logic. If we believe that Kim is undeterrable without such a strike, how can we also believe that a strike will deter him from responding in kind? And if Kim is unpredictable, impulsive and bordering on irrational, how can we control the escalation ladder, which is premised on an adversary’s rational understanding of signals and deterrence?”

– Victor Cha, “Giving North Korea a ‘bloody nose’ carries a huge risk to Americans,” Washington Post, January 30, 2018

Slamfire:¹³ The first round of Ship Combat in GGDM is the most important and most combats will end in the first or second round. Logistics – Operational Supply Limitation (OSL) and Log Ships – will be a major consideration early in the game, and possibly for much of the game. Most ship combats will be skirmishes or hit-and-run; cost, position development, and race survival will make positions careful about committing their major fleets early. The defender in a supported system generally has the logistical advantage, the attacker needs to overwhelm with the tactical-numerical advantage in the first round. Thus, both sides will launch just about everything they have in the first exchange. The defender often wins if they survive the first round.

- **Will to Kill:** The “political and psychological means to wage war” (from Gen. Vo Nguyen Giap feature quote in 3 Combat, p. 972, *infra*) in GGDM terms translates to the *ability and willingness* to commit Acts and Scenes, and Faculties, and to use Combat Power activations every Regular Turn, sometimes multiple Combat Power Activations per turn. This separates from the economic and material means to wage war, which requires ship building output, RPs, industrial output, and technology. A side may have material and/or technological superiority and an excellent support economy and infrastructure, but not be willing to divert or derail other processes to engage in a prolonged period of Combat Power Activations, and commitment of valuable Faculties, Acts and Scenes to combats.
-

“After the fall of Tărnovo to the Ottoman Turks in 1393, a number of Bulgarian clergymen sought shelter in the Russian lands and transferred the idea of the Third Rome there, which eventually resurfaced in Tver, during the reign of Boris of Tver, when the monk Foma (Thomas) of Tver had written The Eulogy of the Pious Grand Prince Boris Alexandrovich in 1453.

Within decades after the capture of Constantinople by Mehmed II of the Ottoman Empire on 29 May 1453, some Eastern Orthodox people were nominating Moscow as the 'Third Rome,' or the 'New Rome.' Stirrings of this sentiment began during the reign of Ivan III of Russia, who styled himself Czar (cf. Caesar), who had married Sophia Paleologue. Sophia was a niece of Constantine XI, the last Byzantine emperor. By the rules and laws of inheritance followed by most European monarchies of the time, Ivan could claim that he and his offspring were heirs of the fallen Empire, but the Roman traditions of the empire had never recognized automatic inheritance of the Imperial office.

It was also Sophia's brother, Andreas Palaiologos, who held the rights of succession to the Byzantine throne. Andreas died in 1502, having sold his titles and royal and imperial rights to Ferdinand II of Aragon and Isabella I of Castile. A stronger claim was based on religious symbolism. The Orthodox faith was central to Byzantine notions of their identity and what distinguished them from 'barbarians.' Vladimir the Great had converted Kievan Rus' to Orthodoxy in 988, in return for which he became the first barbarian to ever get an Imperial princess as a wife."

– from Wikipedia article, "Third Rome," captured August 9, 2019

Inglorious Ends: The fate of Emperor Constantine XI is unknown, but he never resurfaced after the fall of Constantinople. There are no eyewitness accounts of his death, capture or flight, but he was seen fighting on the landside walls with the soldiers. He had no children, no direct heirs.

- ✓ Andreas Palaiologos sold his rights to the crown of the Eastern Roman Empire in 1494 and died in poverty in Rome in 1502 (he also came to Moscow twice before to beg money from his sister, Sophia Zoe, wife of Tsar Ivan III). Their father, Thomas Palaiologos claimed to be the Byzantine Emperor from 1460-1465 when he died in exile in Italy. Old ruling dynasties never end well.
- ✓ See Bulwark of the Past, 2 Eras, p. 773, *supra*.¹⁴

Winning Smart: In the year 234 C.E., Shu Han commander, Zhuge Liang moved against the Kingdom of Wei after three years of preparation. Wei commander Sima Yi, who had also been preparing for his army to remain in the field for a long time, paying special attention to food supplies, took up a strong defensive position on the Wei River on the Wuzhang Plains. The confrontation turned into a long stalemate; Sima Yi refused to be drawn out, while Zhuge Liang would not attack. As the summer months wore on, the Shu Han army began to suffer from lack of food and disease and demoralization; eventually, Zhuge Liang died in his camp (age 53). The invading Shu army thereafter retreated back to their capital with their commander's body; they had been defeated almost without a fight and began to fight among themselves.

- ✓ Source, R.G. Grant, 1001 Battles that Changed the Course of World History, p. 88.

Over 1,200 years later, in early October 1480 A.D., the Tartar leader Akhmat Khan approached a Muscovy army deployed along the Ugra River blocking their way to Moscow. For several days of running skirmishes, the Tartar army tried to cross the river in several places, but were in each instance successfully blocked by the Muscovites. The Muscovites were on the defense, across a

wide river and had more guns, the Tartars were light and very mobile horse-archers, but their arrows could not effectively reach the other bank. The two armies settled down into a stand-off. Ivan III opened negotiations with Akhmat, but only to buy time for more Muscovy forces to reach the area; Akhmat did not receive any more forces during that time, the Crimean Tartars did not come as promised, and the Tartar force was being harassed in the rear.

At some point, Akhmat tried to steal a march and cross far down river at night, but was blocked again. As winter approached, with the threat of the river freezing over, the Muscovites retreated to a high-ground position overlooking the river and the road to Moscow. However, Akhmat's army was then in no condition to cross and advance on Moscow, would not have been effective in assaulting the Muscovite hilltop encampment, and could not have bypassed them leaving an enemy army in the rear. Arriving late in the season, Akhmat was presented with a problem he could not solve for a month and a half, with the types of forces available to him; running out of supplies, on November 28, 1480 A.D., the Tartars retreated. Akhmat was killed the next spring in an attack by another Horde; Moscow was free.

- ✓ From Wikipedia article, "Great stand on the Ugra river," December 10, 2018.
- ✓ The Stand on the Ugra River (and the rise of Ivan III) is portrayed in the first season of the 2017 Russian-language series *Sophia* (available with English subtitles).

"Those skilled in defense hide in the deepest depths of the earth, those skilled in attack maneuver in the highest heights of the sky. Therefore they can preserve themselves and achieve complete victory."

– Sun Tzu, [The Art of War: the Demna Translation](#), p. xviii (Trans. by Thomas Cleary) (2002) ¹⁵

Endnotes.

¹ Commentary: For example, radar gunnery was a huge advance of WWII; specifically, it eliminated the need to manually observe shell splashes and adjust salvos for range, instead, radar could track shells in flight, and provide accurate ranges. The USS California, damaged at Pearl Harbor, was one of six ships to receive radar in 1940, but due to the damage, the ship was essentially rebuilt and reentered service in early 1944 as a new ship with the latest improvements in fire-control and radar. The Imperial Japanese Navy generally lacked radar gunnery on their ships.

² Commentary: I recall that in the War of 1812, some stiff-necked Brits complained in the press that U.S. 40-gun frigates actually had 44 guns (e.g., the USS *Constitution* and five others which also had heavier guns), due to two extra guns in the front and back. They were implying that the Americans were 'cheating' in some way. New American heavy frigates outmatched British 5th Rate Frigates with 38 guns of lighter caliber and smaller crews and generally caused problems for the blockade. The British navy suffered major defeats and loss of prestige during the war.

- ✓ This was – more or less – the same sort of claim made by the British after their defeat by the Scots at the Battle of Stirling Bridge (1297) in which, at some point in the battle, the wooden bridge collapsed cutting the English army in two on both sides of the river. No one knows why the bridge collapsed or exactly when, Blind Henry's account is the main one of fiction, which some mistake for history. The bridge may have been destroyed by the British to prevent the Scots pursuit, it may have collapsed from the weight, but the English made great propaganda out of claiming that the Scots sabotaged the bridge; but more importantly, in the late chivalric age, the English claimed that the 'barbaric' Scots had won 'unfairly' because they attacked before the whole English army had crossed and formed up for battle! Humph! And all that.

³ Citation: Information from R.G. Grant, 1001 Battles that Changed the Course of World History, pp. 568, 578 and Wikipedia article, "Battle of Navarino," June 21, 2018.

⁴ Citation: “The lessons taught by Tsushima gave rise to the most feverish decade of naval construction history. Immediately afterwards the British *Dreadnought* lent its name to the new era of the all-big-gun battleship designed for speed as well as terrific striking power. Of 17,900 tons displacement and 490 feet in length, the vessels of this class were driven by turbine machinery of 23,000 horsepower developing a speed of 21 knots. The armament consisted of ten 12-inch guns in five turrets, supplemented by twenty-four 12-pounders distributed over the ship for defense against torpedo boats.

Even these formidable specifications did not satisfy, and the *Iron Duke* class of super-dreadnoughts introduced ten 13.5-inch rifles with twelve 6-inch guns as secondary armament. The length was increased to 580 feet and the displacement to 25,000 tons. As a more radical departure came the *Queen Elisabeth* class, begun in 1912 and completed after the outbreak of war. These five battleships used fuel oil to develop a speed of 25 knots from 75,000 horsepower. The armor belt had a maximum thickness of 13 inches, and 15-inch guns appeared for the first time in the main armament.

A range of 4,000 yards had been considered long at Tsushima, but these giants could hurl their tons of armor-piercing projectiles five times that distance. Meanwhile the stealthy and prowling enemies of the battleship had likewise grown more deadly. By 1914 the torpedo boat had been largely superseded by the destroyer making 40 knots and carrying six torpedoes capable of sinking a ship five miles away. Submarines had been developed with a greater cruising radius, so that they could lie in wait on cargo routes or sow miles of a vastly increased explosive force in enemy waters.

Nor had the cruiser lagged in the world-wide armament race. The British Committee on Designs which planned the *Dreadnought* also recommended a new type known as the ‘battle cruiser’ which had more speed and striking power than the battleships of a few months before. Although the number of guns and thickness of armor were reduced in the interests of mobility, the *Princess Royal* class of 1910 carried eight 13.5-inch rifles in addition to an anti-torpedo-boat armament of 4-inch guns. In 1912 the *Tiger* class burned fuel oil as well as coal, and the experience of 1914 led to the *Renown* and *Repulse*, making 32 knots and carrying 15-inch guns.

After a decade of such technological advances, Tsushima seemed almost as outdated as Trafalgar. For no admiral in the world could pretend to know all the tactical possibilities of the new naval monsters.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 712-713.

- ✓ Cf. The USS Enterprise (CVN-65) commissioned in 1960 was 93,000 tons, over 1,200 feet long, and had a speed of 33.6 knots, only slightly faster than a WWI British battlecruiser and slower than a WWI destroyer, but BIG and nuclear powered.
- ✓ The USS Gerald R. Ford (CVN-78), commissioned in 2013, is considered the largest aircraft carrier in the world, at 100,000 tons, with two nuclear power plants that have 250% the output of those on the Nimitz Class, it runs at about 1,100 feet long and over 30 knots (actual top speed is surely classified information).

⁵ Commentary & Citation: One of the most amusing scenes of the original Battlestar Galactica series was the eye-popping moment when the cocksure Commandant Leiter’s Eastern Alliance destroyer encountered the Galactica (BSG:OS “Greetings from Earth”). The space-going neo-Nazi Eastern Alliance assumed that they were the superior military power in the galaxy until the Galactica encounter, which was not only far more technologically advanced, but also was enormous, such that the Alliance destroyer was set down inside the Galactica’s Viper landing bay.

⁶ Commentary: Oddly, it has been reported that the Japanese on the main island heard radio traffic from the attack on Pearl Harbor, which is at least a highly improbable (and perhaps ominous) occurrence. Schumann resonances?

⁷ Commentary & Citation: Not all enemies are aliens, as we well know: “We have met the enemy and he is us.” – Pogo Comic Strip, Earth Day 1971, by Walt Kelly.

⁸ Commentary: George Oliver Smith wrote a series of short stories between 1942 and 1945 about a Venus Equilateral Relay Station, 3 miles long, located at the L4 point to relay messages from Earth, Venus and Mars to their intended recipients whenever the planets were on opposite sides of the sun, exhibiting a rare understanding of orbital mechanics.

⁹ Commentary: In this case (conceding that it is a historical drama), the ‘artillery school’ in Edo was for the pre-Meiji Japanese a sort of Technology Power College rather than Weapons College or Combat College. The dialogue

represents to the viewers in condensed form the coming Meiji Restoration regime's approach to Japan's problem and the fear of change, of disorder, the lack of answers, the seed of what ended the Tokugawa Shogunate.

- ✓ Not coincidentally, building forts along the coast and arming them with modern cannon was China's strategy that led to defeat in both Opium Wars, the second one disastrously. The dialogue thus may have a second layer of meaning – a poke in the eye – in the context of the history between China and Japan.

¹⁰ Citation: “No. Try not. Do or do not. There is no try.” – Yoda, *Star Wars: The Empire Strikes Back* (1980) (you know this scene already).

¹¹ Citation: “As recently as March 24, only a week earlier, the president was equating covid-19, the disease caused by the coronavirus, to the flu: ‘We lose thousands of people a year to the flu. We never turn the country off.’

Or as he put it on Feb. 26: ‘This is a flu. This is like a flu. ... It’s a little bit different, but in some ways it’s easier, and in some ways it’s a little bit tougher.’

Similarly, on March 9, in a tweet: ‘So last year 37,000 Americans died from the common Flu. It averages between 27,000 and 70,000 per year. Nothing is shut down, life & the economy go on. At this moment there are 546 confirmed cases of CoronaVirus, with 22 deaths. Think about that!’

At the very least, Trump's consistent effort over many weeks to portray covid-19 as a type of flu could have created a feedback loop. Trump has the world's biggest megaphone, and his friends may have been regurgitating his message.” – Glenn Kessler and Salvador Rizzo, “Fact-checking President Trump's marathon news conference,” *Washington Post*, April 2, 2020.

¹² Commentary: There is no Conflict Check which reads “(T) Position has not initiated Orbital Bombardment against its own colonies while this Title has been active” (or at any point in the game). That would be too easy, see *Won't Get Fooled Again* commentary in 4 Government Titles, p. 633, *supra*. And bombarding your own people is something beyond a legitimacy question. Sid Barre, the dictator of Somalia, bombed the city of Hargeisa, Somalia (and other areas) containing about 750,000 population, in 1988 because it was a stronghold of and sympathetic to the Somali National Movement. He fled the outbreak of the Somali Civil War in 1991 in a tank, and into exile where he died 4 years later.

¹³ Commentary: Slamfire is a weapons design issue where the weapon can continuously discharge until the ammunition is exhausted, caused by the inertial force of the firing pin hitting the primer as the round is loaded by automatic forward bolt action. It is not the same as a cook-off, which is caused by excessive heat causing the round to fire.

¹⁴ Commentary: “Inglorious Ends” could also (tongue in cheek) describe the sinking of the HMS *Glorious* along with both destroyer escorts by two German battleships armed with 11” guns in June 1940. The *Glorious*, *en-route* to England from Norway, had no CAP and no aircraft ready on deck when the German ships surprised them; a shell penetrated the flight deck igniting an aircraft fuel explosion below. This is only one of two instances where an aircraft carrier (CV) was sunk by gunfire from a battleship (BB) since 1939, the other being the *Battle Off Samar* in 1944, when a force led by the *Yamato* surprised American carriers and destroyers, sinking two of six escort carriers.

¹⁵ Citation: cf. “Those who excel at defense bury themselves away below the lowest depths of the Earth. Those who excel at offense move from above the greatest heights of Heaven. Thus they are able to preserve themselves and attain complete victory.” – Sun Tzu, *The Art of War*, p. 183 (Trans. by Ralph D. Sawyer) (1994).