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

“Quantum mechanics is certainly imposing. But an inner voice tells me that it is not yet the real thing. The theory says a lot, but does not really bring us any closer to the secret of the ‘old one.’ I, at any rate, am convinced that He does not throw dice.” – Albert Einstein

Making Everyone Happy: Robert Heinlein cleverly created an explanation that would make both empirical scientist and Biblical literalist correct at the same moment. It allowed him to avoid taking sides. But Yahweh doesn’t come out looking good in it.

- ✓ **Rahab:** But notice carefully what I did say. I did not say that the world was created twenty-three billion years ago; I said that was its age. It was created old. Created with fossils in the ground and craters on the moon, all speaking of great age. Created that way by Yahweh, because it amused Him to do so. One of those scientists said, ‘God does not roll dice with the universe.’ Unfortunately not true. Yahweh rolls loaded dice with His universe... to deceive His creatures.

Alex: Why would He do that?

Rahab: Lucifer says that it is because He is a poor Artist, the sort who is always changing his mind and scraping the canvas. And a practical joker. But I’m really not entitled to an opinion; I’m not at that level. And Lucifer is prejudiced where His Brother is concerned; I think that is obvious. – Robert Heinlein, Job: A Comedy of Justice (1984).¹

- **Will’s God:** “Every man who wages war thinks God is on his side, and often I warrant God should often wonder who is on his.” – Oliver Cromwell, Cromwell (1970). If you attribute your victories to God’s will, to what agency do you then attribute your defeats? Your defeats are either God’s will or not; if they are not God’s will, then another agency exists that is at least as powerful as your God and it’s not on your side. Either way, you cannot do anything about it. Or perhaps you think that as long as God is on your side, you cannot be defeated? What does it mean then when you were defeated? That your god is fickle? This is why God has no place in military thinking.
 - ✓ “Chestov is quoted as saying: ‘We address ourselves to God only to obtain the impossible; as to the possible, humans suffice.’” – Erich Kahler, The Tower and the Abyss (1957) quoting Albert Camus quoting Lev Shestov (Chestov).

Basic Combat Procedure: Combat is resolved in rounds. During each round, each side in the combat gets their chance to either attack the enemy or retreat from the combat (if possible). All attacks and defenses in a Combat Round are considered to be occurring *simultaneously* for resolution purposes (not IGO-UGO), although in practice, each is resolved separately. As outlined in *Relativity, 3 Streams of Time*, p. 85, *supra*, Combat occurs and proceeds independently of the progress of the rest of the game; that is, the rest of the game does not stop for Combat; any number of Regular Turns and Turn Cycles, may be resolved during the course of a combat, or even a single Combat Round if the combatants are being dilatory. Forces involved in combat may not do anything else during Regular Turns until either they win or they retreat from the combat.

- ✓ Enemy unit has nothing to do with diplomacy; enemy unit is the one shooting at you.
- **Trading in Fire:** ‘Simultaneous’ combat resolution means that all units on both sides will execute their attacks or attempt other actions, even if they are destroyed during the Combat Round, and that all destroyed units are removed at the *end* of the Combat Round.

- Attackers & Defenders: The side that initiates the combat is the attacker and the poor, hapless victim of the aggression is the defender.² In the rare instance, due to the continuous Turn Cycle of the game, that both positions initiate combat on the same date in the same place against each other via appropriate Combat Power activation, the position that submitted Actions first is the attacker. Any number of positions may participate in any combat; additional forces and positions may arrive during the course of the combat (during Regular Turns) as well, and join the ongoing combat. Each force and/or position joining a combat at any subsequent point, 1) must be capable of initiating combat and 2) must do so by proper activation of the Combat Power. Any side initiating combat *must* submit Combat Orders concurrently or the combat will not be initiated (but Acts and Scenes will still be consumed).

This requirement is for the purpose of game progress. You are either doing it or not. There should be no ‘Phoney War’ or ‘sitzkrieg’ where combat is initiated and nothing happens immediately.

- ✓ There are only two possibilities, either a position is an attacker or a defender. If a position initiates combat against another, they are considered an attacker for GGDM purposes, regardless of when this occurs, who they help or hurt, or what they subsequently do (or who is blamed for the combat). All units belonging to a position involved in a combat share the same designation.
 - ✓ For example, A attacks B, initiating combat via activation of the Combat Power. Therefore A is the Attacker and B is the Defender. After the first Combat Round, a Regular Turn is processed and C arrives via Combat Movement and initiates combat against A and/or B, because C initiated combat, C is also an Attacker and/or A and B are Defenders *as to C*.
 - ✓ Attacker/Defender relationships only exist as to pairings of combatants; in multiparty combats, a side may have different designations as to different opponents. This is important for the Seize the Initiative Combat Power activation, below.
- Capoeira: Each Combat Round, each side must submit Combat Orders to the Concierge. The Combat Round will be resolved when all Combat Orders are received, with two exceptions noted below. When the Concierge receives *any* combatant’s Orders, all other participants in the combat will be asked to submit Combat Orders within one day (24 hours) of the time the Combat Orders were received.
- ✓ If the Concierge does not *timely* receive a defender’s Combat Orders on the *first round* of a Combat, the attacker’s Combat Orders will be executed and the defending forces will attempt to retreat, if possible. Any position initiating combat must send appropriate Combat Orders with the combat initiation notice or Regular Turn Actions.
 - If the defender cannot retreat or does not successfully retreat, the defender will be given an opportunity each Combat Round to submit orders. If no orders are received, the above procedure will be repeated (the Defender who cannot retreat will simply get pummeled) until all Defending units are destroyed or retreat, or until the attacker retreats ending the combat.
 - ✓ If the Concierge does not timely receive a defender’s Combat Orders but has received at least one set previously, the last Orders received for the defender will be repeated to the extent possible. The Concierge will not alter the Orders.

- Thus, the defender cannot hold up the combat by refusing to submit orders. These exceptions, paired with the Seize the Initiative activation (*ut infra*) insure that most combats efficiently proceed to resolution while also leaving the players with some flexibility as to timing of Combat Rounds and Regular Turn processing.
- Seize the Initiative: Generally speaking, the attacker drives the combat; if the attacker is not attacking, the defender does not need to defend (*ut supra*).³ Seize the Initiative allows the defender to flip the tables on a dilatory attacker:

Imagine a game of Chess, or of Checkers. On your turn, you must move a piece. No matter what you think of your current position, you must move a piece, there is no rule that allows a pass, and the mechanics of the games generally would not allow ‘not moving.’ People don’t think about it, we assume it to be the (usually) unspoken rule of any game. Even in multi-player games, such as Monopoly – where there are definitely times when you don’t want to move – when it is your turn, you must shake the dice and pay the man his money. GGDM is more forgiving in that way, if you don’t want to take your turn, or your round, fine, but the game universe (like life) moves on without you, unless you are impeding the progress of combat resolution (akin to impeding an ambulance with sirens blaring).

- ✓ If at the time the defender’s next Regular Turn actions are *received* by the Concierge, an attacker in an ongoing combat has not submitted Combat Orders for three days, the defender in the combat pairing may choose to ***become the attacker*** by activating the Combat Power for the purpose of Seize the Initiative, if the defending forces are capable of initiating combat (i.e. Defense Bases cannot chase enemy warships). The previous attacker is now the defender.
 - Combat Orders must be submitted with the Regular Turn actions to Seize the Initiative (as if initiating combat, *ut supra*); Seize the Initiative can only be done by Combat Power activation on a Regular Turn.
 - Fighter Complements based on a colony are capable of initiating combat and thus may Seize the Initiative for their side.
- ✓ When the defender becomes the attacker by Seizing the Initiative, that Combat Round is treated as if it were the first round of combat, *ut supra*.
- ✓ Because the combatant forces are already locked in combat and cannot do anything else until someone either wins or retreats, Seize the Initiative only requires expenditure of one Act by the defender, and serves to prevent dilatory tactics⁴ and inferior attacking forces from pinning down superior defending forces by not submitting Combat Orders.
- ✓ A Combat Power activation to Seize the Initiative ***never*** (in any context) requires a check to see if the Power Activation is obeyed.
 - The three-day period for the attacker to submit Combat Orders is based on the idealistic time periods for the continuous action of the game presented in Three Daze, 2 The Streams of Time, p. 84, *supra*. It may or may not need to be adjusted if the periods for submitting Regular Turns are extended to accommodate real world schedules.

It is possible for a Colony Combat to go stagnate if the defenders only have Defense Bases and the attacker is not attacking. This becomes a siege (see *Besieged Colonies*, 3 The Side-real Stage, p. 124, *supra*). This situation is not bothersome to the GGDM combat rules because *only the attacker is being inconvenienced by their own inaction*; the defenders are not going anywhere because they are immobile defense bases. See also *Blockade Running*, 4 Commerce, p. 1233, *infra*.

“The enemy will pass slowly from the offensive to the defensive. The blitzkrieg will transform itself into a war of long duration. Thus, the enemy will be caught in a dilemma: He has to drag out the war in order to win it and does not possess, on the other hand, the psychological and political means to fight a long-drawn-out war.”

– Gen. Vo Nguyen Giap, Commander, People’s Army of North Vietnam

Keep Your Friends Close, Your Enemies Closer: Care should be taken against whom combat is initiated, a side may only issue orders to fire at 1) units involved in the combat, 2) belonging to positions against whom they have initiated combat *or* who have initiated combat against them. Combat initiation is between positions, not individual participating units. The position first initiating combat, the attacker, designates the type of combat and the participants – the attacking units, and the targets of the attack.

- ✓ So, if C (in the example above) initiates combat against B only, C cannot fire at A and A cannot fire at C, unless one of them later initiates combat against the other by activation of the Combat Power.

This may seem terribly unfair to the defenders, but it is not inaccurate historically (e.g., WWII was created by the aggressors); the one who starts the fight has control initially of the scope and theatre of the contest. For example, Germany invaded Poland in September 1939, the Soviets invaded Poland a couple of weeks later. Less than two years later in June 1941, the Germans invaded the Soviet Union. German actions created the Eastern Front in WWII; many alternate histories have explored what happens if there was no invasion of USSR.

The defender has options in GGDM that can frustrate the attacker, including attempting retreat on the first round, adding new forces, initiating new combats, or other options to shift the scope and theatre of the contest.

A combat is conceptually a lethal struggle between a set of units in a particular theatre or sphere of operation described by the Combat Type. Thus, Combat Type may be alternately defined as the theatre of operations of the combat, i.e. system space, orbital space, planet surface, corresponding to Ship Combat, Colony Combat, and Ground Combat.

- **Targeting Unit:** The attacker may only initiate combat against units. Pursuant to the discussion in *View from a Height*, 1 Construction, p. 660, *supra*, the units of the game are ships (and system boats) and colonies; thus, there is Ship Combat and Colony Combat. Thus, an attacker cannot initiate a Colony Combat against some of the colony’s Defense Bases and exclude others, as Defense Bases are *enhancements* to the Colony unit (combat in GGDM is between game units). Alternatively, as discussed below, the colony would simply voluntarily join any excluded Defense Bases with their first Combat Round orders.⁵

- ✓ Generally, an combatant can only target (or join) units appropriate to the Combat Type being fought (and each ongoing Combat may be of only one type), thus Ground Units (introduced in 4 Combat, *infra*) cannot be targeted by or joined to a Ship or Colony Combat. It is possible however, for ships and non-Ground Bases to join a Ground Combat if they are at the planet, for the limited purpose of supplying Ground Units (i.e. Log Ships), landing units, or for fire support. They must successfully retreat to exit the combat (*ut infra*, p. 980) before taking any Regular Turn Actions.
 - ✓ Ships that have retreated to the colony previously from a Ship Combat (*ut infra*) may join or be targeted as part of a Colony Combat (therefore they might as well join), and the forces attacking the colony receive one Offensive Shift (*ut infra*) against ships participating in or sheltering at the colony during a Colony Combat.
- **Those Who Stand Looking:** During any combat, there may be other units present that are not part of the combat or involved in the combat, for example, they may be waiting just out of range to do their part or watching from a distance, avoiding being hit. Units which are not involved in a combat may not be targeted by participants (*ut supra*). Thus transports loaded with Ground Units, Carriers with Fighter Complements, Cargo Ships waiting to loot, or Colony Ships waiting to Land or Unload, may be held out of a Colony Combat, but if so, a Combat Power activation will be required for them to initiate any new separate combat. As noted in Move Out! and DefCon 1, 1 Combat, pp. 942, 946, respectively, *supra*, new units arriving via Combat Movement or units on Combat Alert may initiate combat and all friendly units present may automatically join them.
- **Rule 20 Permissive Joinder:** Any participant may voluntarily join (i.e. feed) available eligible friendly units present into an ongoing combat at the beginning of any Combat Round ***after the first*** and those units may fire at the enemy or take other actions, immediately. Joining a combat *does not require a Combat Power to initiate combat* but units joining an ongoing combat must either be able to initiate combat, or must be Logistical Ships, and must be able to join the type of combat that is in progress (i.e. must be able to fight in that sphere, theatre). Since there is no Power Activation, no check is made to see if the units obey.
- ✓ **However**, the attacker in a Colony Combat against a colony that has one or more System Defense Bases may choose to initiate combat (normally or as a follow-on) against only the System Bases. The defender may only join Fighter Complements, and any warships or armed System Boats sheltering at the colony (following a retreat). The attacker is not allowed to involuntarily join any Orbital or Ground Bases by attacking them. On the other hand, if the attacker destroys all of the System Bases, there is no follow-on option against the rest of the colony defenses, rather, a separate Power Activation is required to initiate combat against the remaining defenses, even if that is in the form of other units arriving by Combat Movement afterward.
 - ✓ Tender starships carrying armed System Boats that join a combat should, like a Carrier with Fighter Complements, be considered to join the combat even though a Tender Ship cannot itself initiate combat, it must come close enough to launch the armed System Boats and stay close enough to gather them in later. The Tender Ship may also be considered to be providing sensor and command support for the armed System Boats, and may retreat with or without the System Boats.

Units that join a combat may not do anything else until either they retreat successfully from the combat or the combat ends. There is no rule procedure, other than colony defense, to force uncommitted enemy units to join a combat, and they may not be fired upon. However, it is the nature of combat to draw in all available units.

This is, of course, a way to shoo units into a combat when they failed to obey the Combat Power activation to Initiate Combat (see 1 Combat, p. 944, *supra*). The cost is that they are not available on the first round, *which can be critical*. Though we would not now expect units to disobey an order to initiate combat, everyone knows that in combat, it tends to work this way, crap happens, units underperform or fail to reach battle, and that the first casualty of battle is ‘the plan’; there is some historical basis for this as well:

- ✓ “It required long months of drill to train a soldier for linear tactics, and every attempt to pit novices against regulars in formal battle had led to wild routs. In the end the recruits took matters into their own hands, fighting as best they could; and Carnot saw the germ of an ultimate decision in the ‘horde tactics’ scorned by a disciplined foe. Self-preservation is not a bad foundation for victory, and at Hondschoote most of the French forces showed a marked distaste for coming within range of enemy muskets. Only the more adventurous souls swarmed out in a ragged wave of skirmishers to take cover in ditches and behind hedges.

From such positions they peppered the long lines with a fire which left the enemy helpless. Return volleys were a waste of ammunition, and the, regulars advanced only to find that their opponents had scrambled back to new cover. Less valiant Frenchmen soon saw the advantages of a new military game which promised to be safe as well as interesting. They joined their comrades of the ditches and hedges until the allied casualties grew serious. When enough troops had plucked up courage, their officers ordered an advance; and the recruits surged forward in masses which by courtesy were called columns.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 454-455.⁶

The victor of the Battle of Hondschoote was executed six months later during the Reign of Terror for cowardice in the face of the enemy despite his victory. His political sponsor had been executed before the battle and during the campaign and battle, the experienced general was overruled several times by Republican monitors, men of revolutionary fervor and extremist ideologies with no military experience and little training. The Republican monitors took his caution as cowardice, despite the victory and he was later tried and executed. This is a casebook example of how revolutionary ideologies and politics spin out of control and destroy the revolution from within.

- Ticky Tock Timing: Since the attacker must submit Combat Orders first and the defender has 24 hours to submit their Combat Orders (*ut supra*), units joining on the attacker’s side will be known to the defender, who may issue orders to fire at them.
 - ✓ The defender should not be able to see the attacker’s Combat Orders, as it may affect decisions to Combat Screen, Retreat, and/or Combat Resupply some units, however, the defender should be informed if additional unclocked or non-Temporal Ship (T-Ship) units have joined the battle, as those units will have approached normally. The only time a unit should be able to join the battle undetected (until it attacks) is if the unit is in Ambush Mode (see Ambush Combat, 7 Combat, p. 1036, *infra*).

On the other hand, friendly units joining the defender's side will not be attacked normally in the Combat Round they join and may get a 'free shot' at the enemy because they were not part of the combat when the attacker issued orders. This sucks for the attacker but is not entirely unrealistic (e.g., the Battle of Austerlitz, 1805).

- ✓ Units joining on the defender's side, however, can still be subject to Interception if they attack a unit that is Combat Screened (see 3 Carriers & Fighters, p. 1067 *et seq.*, *infra*), because the target of the Combat Screen is the unit being protected and interceptors take on whomever tries to attack the protected unit.

The defender is taking a risk intentionally holding out units until the second or third Combat Round so that they can join and get a free shot. Defense is usually an 'all hands on deck' event and units held out by the defender in the first Combat Round may not be targeted by the attacker, but also may not fire. Napoleon mastered this at Austerlitz in December 1805, he deliberately allowed his thinned lines to be pushed back in a slow fighting retreat to lure the enemy off Pratzen Heights; at the opportune moment, he launched an attack at the allied center with up to 20,000 French soldiers that had been hidden in a wooded ravine shrouded by heavy fog. The battle occurred on the 1st anniversary of his coronation as Emperor.

- **Victuals & Vitals:** Logistical Ships must join a combat in order to perform Combat Resupply (see 4 Movement, p. 868, *supra*). Additionally, any Log Ship that provides *Supplies* during a Regular Turn to units involved in an ongoing combat will automatically join the combat *unless* the Log Ship initiates interstellar movement in the same Regular Turn. Log Ships will have to perform a successful retreat to be able to move away. Log Ships are non-warships.
- **The Cavalry:** Units arriving by Combat Movement that join an existing combat do not change their side's designation in existing combat pairings. They may, however, initiate combat against other positions present, if appropriate, and if they are not already involved in combat with the arriving ships' owners (as in the example) or they may initiate new types of combat, as appropriate to the particular circumstances.
 - ✓ Continuing the above example, if the preceding combat is a Ship Combat, warships belonging to A arriving by Combat Movement, may join the existing multi-positional Ship Combat and A may or may not initiate combat against C. However, A could not initiate Ground Combat against a colony owned by D, if A did not bring any Ground Units as that would not be appropriate or possible.

Spock: *He is intelligent, but not experienced. His pattern indicates two-dimensional thinking.*

– Star Trek II: The Wrath of Khan (1982), "Battle of Mutara Nebula" (2285)

Abstract Tactical System: Gestalt-Genesis Day Million uses an "abstract tactical system" to resolve combat: A unit to unit combat system without a map.⁷ In an abstract tactical system, there are no maps or hexes or grids, or movements, maneuvering, speed, or generally, weapons range; rather, the pieces of the sides are lined up and shoot at each other until one side is destroyed or runs away.

The basic abstract tactical system assumes that all units are capable of firing at any other enemy unit in each Combat Round and that units involved are capable of instantaneously closing to firing range in terms of the time period represented by each Combat Round (but this can be changed).

- ✓ Abstract tactical combat should not be envisioned to mean that modern armed units are just, ‘unrealistically,’ standing in a line shooting at each other like Redcoats (however, see next). That would be absurd. Misses in combat can be interpreted as being due to unit maneuvering, bad shooting, bad driving, bad training, being on drugs, marital disputes, prior damage, being distracted by glittering asteroids, avoiding collision with a moon, or just being out of range.

Abstract tactical combat is particularly suitable for three-dimensional space combat as it avoids the fallacies of fighting three-dimensional space combats on a two-dimensional, flat, tabletop game board (or the complexity of those systems that do simulate three-dimensional combat on a two-dimensional surface).⁸ It is also suitable for this level of game where the point of the game is neither combat nor detailed tactical ship-to-ship combat simulation. That said, however, GGDM combat has unexpected depth and complexity for being abstract tactical.

- ✓ Who can forget the outlandish infantry EVA spacesuit, zero-G, above the Earth laser fight between the U.S. Marines from a space shuttle and the defense unit from orbital space station in the James Bond movie *Moonraker* (1979)? Yet, without maps, terrain, or hex or area movement, players might envision GGDM’s abstract tactical combat as being literally like the *Moonraker* infantry combat in space scene.
- **Forward Observation:** GGDM makes the assumption that, other than cloaking and T-ships (see *Ambush Combat* generally, 7 *Combat*, *infra*), all units in a system can be seen by everyone (see also, *One-Way Mirror*, 2 *Information*, p. 1340, *infra*). The assumption is that in-system, nearly-perfect detection abilities (see *Riding the T*, 3 *Temporal Technology*, p. 828, *supra*) are being used in GGDM. This issue is discussed in greater detail in 2 *Information* generally, *infra*. Recall also that units can execute *Interplanetary Movement* instantly (see 2 *Movement*, p. 844, *supra*), thus, within the time periods of GGDM, all units are in range.

“There is only one tactical principle which is not subject to change. It is to use the means at hand to inflict the maximum amount of wound, death, and destruction on the enemy in the minimum amount of time.”

– General George S. Patton Jr.

“In every battle there comes a time when both sides consider themselves beaten; then he who continues the attack wins.” – General Ulysses S. Grant

Combat Resolution: The Concierge resolves all Combat Orders. Each Combat Round, each unit involved in the combat may fire at an enemy unit, attempt to retreat, or do something else (as provided by the rules, read on); basically, in each Combat Round each unit may do one thing, unless otherwise provided. This can be improved, for example, by multi-targeting technology.

If a unit is ordered to do more actions than allowed, the first actions will be processed and all later actions ignored (necessary for game sanity purposes).

- ✓ This is contrary to U.S. Marine Corps training where we were told to follow your last lawful order; the person issuing the order would be responsible if they countermanded or interrupted execution of an order from a superior officer.
- ✓ “In the absence of orders, go find something and kill it.” – Field Marshall Erwin Rommel.

Combat Orders will be resolved generally in the order provided, within the framework of the combat rules; that is, all Fighter attacks are resolved first in the round and all Ship Missile attacks are resolved near the end of the round, before retreat attempts. Within each part, Fighter Attacks, the main combat, then the Ship Missile attacks, then the retreat attempts, the orders will be resolved in the exact order provided by the position. Combat Screening assignments on all sides, however, must be necessarily addressed before the first Fighter Attack is resolved.

- ✓ Since Engaged results can affect the later parts of the Combat Round, Fighter attacks for both sides must be resolved first, after Combat Screening assignments.
- ✓ As explained in *Blacksheep, 2 Carriers & Fighters*, p. 1054, *infra*, Fighter attacks are always resolved first in the Combat Round, therefore, it would not matter if they were placed last in the orders and Ship Missile attacks are always resolved last in the round (but before retreats) and it would not matter if they were placed first in the orders (see *First Fire, 4 Carriers & Fighters*, p. 1079, *infra*).

Enlightenment is assigned to the Combat, not Combat Round, so unused Enlightenment carries from Combat Round to the next Combat Round, until the end of the Combat when it is lost (see *Vampire Suicide and Army of Light, 2 Colleges*, pp. 478-479, *supra*). Enlightenment may be added at the beginning of any Combat Round, however, addition after the first Combat Round may lead to wastage. *Id.*

- ✓ The use of Enlightenment in combats may affect the order in which the side has its units perform actions; for example, it is possible to homogenize the odds of each unit hitting the enemy by having the units with less chance to hit fire first, thus allowing them to benefit from Enlightenment rerolls. This will likely use up Enlightenment before heavier units attack, though. However, as also noted in *Army of Light, 2 Colleges*, p. 479, *supra*, a side may choose not to use Enlightenment in Fighter attacks, and Enlightenment should not apply to Ship Missile attacks.
- ✓ Because retreats are processed last in the round, it is likely, unless the whole side is running away, that Enlightenment will remain to aid the units attempting to retreat.

This resolution of Combat Orders will proceed without interaction between the Concierge and players; this is necessary for batch processing, to keep the game moving along, no matter how many combats are running at any time. Thus, there are limited situations where the Concierge may make some decisions that affect the combat (e.g., see *Combat Screening, 3 Carriers & Fighters*, p. 1067, *infra*). The Concierge will necessarily inform both sides of the results of the Combat Round, but will not inform anyone not involved in the combat unless required, however others may detect that a combat is ongoing (e.g., see *ABBA Arrival and Private Eyes, 2 Information*, pp. 1340, 1342 respectively, *infra*).

- **Firing Solution:** The basic chance that any warship will be able to hit another unit in combat is 10%. The basic chance is multiplied by three for 1st Era Warships, by five for 2nd Era Warships, and by seven for 3rd Era Warships. So a 1st Era Warship has a 30% chance to hit, a 2nd Era Warship has a 50% chance to hit, and the 3rd Era Warship has a 70% chance to hit.
 - ✓ Ground Defense Bases have a basic 20% chance, times the current era of the colony's defense to hit, while Orbital and System Defense Bases have a basic 30% chance, times the current era of the colony's defenses, to hit. Partially completed Era Upgrades (see Colony Defense Era Upgrade, 2 Combat, p. 954, *supra*), count as the lower or last Era completed. In the 3rd Era, bases are more powerful than warships.
- **Combat Shifts:** These basic chances to hit may be adjusted by Combat Shifts to a maximum of 99% chance to hit. A Combat Shift either increases or decreases the chances of the attacking unit hitting the target by 10% per Shift. Shifts that increase the chances of a hit are called Offensive Shifts and shifts that decrease the chance of a hit are called Defensive Shifts.
 - ✓ A unit (including Defense Bases) of a higher Era firing at a target of a lower Era (including Defense Bases) receives one Offensive Shift for each Era difference between the firer and the target. Thus, a 3rd Era Warship has a 90% chance to hit a 1st Era Warship (i.e. basic chance plus two Offensive Shifts), an 80% chance to hit a 2nd Era Warship, and a 70% chance to hit a 3rd Era Warship (i.e. no shifts).
 - ✓ Conversely, equal Defensive Shifts of one shift per Era difference are applied if a lower Era unit is firing at a higher Era unit. For example, a 1st Era Warship has only a 10% (30% - 20%) chance of hitting a 3rd Era unit and a 3rd Era Warship has only a 60% chance of hitting a 4th Era Warship.

Combat Shifts are always applied individually between one attacker and one target in each combat instance (including Probing defensive fire, see Bloody Noses, 2 Information, p. 1346, *infra*), the same Offensive or Defensive Shifts can be applied to several attacks by or against the same unit in the same round and over several Combat Rounds.

- ✓ Heavily armored Orbital and System Defense Bases receive one Defensive Shift in the first combat round of a Colony Combat. Defensive Shifts tend to draw multiple fires in a round...
- ✓ Fighters on FAP assignments (combat reconnaissance) also provide friendly offensive and defensive Combat Shifts, see A FAP in the Night, 7 Combat, p. 1041, *infra*.
- **Civilian Targets:** The Era shifts also apply to non-warship targets: Scouts, Cargo Ships, Colony Ships, Orbital Shipyards, Orbital Cities. Non-warship targets are considered to be at the Era of the Patent that allowed their construction for Era shift purposes; all non-warship targets in the game are initially 1st Era. In addition to Era shifts, combat units shooting at a civilian target also receive two Offensive Shifts (because they are not really combat units).
 - ✓ For example, a 1st Era Warship or Orbital Defense Base attacking a 2nd Era Colony Transport, would have a 40% chance to hit (30% - 10% + 20% = 40%).
 - ✓ If the target is an orbital target (e.g., Orbital City, Orbital Shipyard, incomplete ship) that is *not an Orbital Defense Base*, an additional Offensive Shift is received by the attacking unit (as they cannot run). Thus, a 1st Era Warship firing at a 2nd Era Orbital Shipyard, would have a 50% chance to hit (30% - 10% + 20% + 10% = 50%).⁹

- ✓ Scout Ships receive one Defensive Shift in any combat to help them retreat safely.
- **A Hit:** A hit equals destruction. There are no defensive rolls, or defensive adjustments, or blocks or saving throws, a unit that is hit in combat is destroyed. Positions may develop various defensive measures to increase the survivability of their units in combat through Enhancement and Continuous Operational Technology Patents, and given the lethality of 3rd Era weapons, it is probable that this will occur.
 - ✓ “Force fields or screens? Well, again, they climb in the face of the electromagnetic theory. You can’t make the expanding wavefronts of a wavefront stop expanding. No.” – James Blish, *The Tale that Wags the God* (Kindle Locations 598-599).
 - ✓ Basic combat in GGDM may be analogized in baseball terms to star players and wannabe star players selling out, swinging for the fences at every pitch that is anywhere near the strike zone. All or nothing, homerun or strike out, no base hits. Baseball broadcasters feel like this is the trend in 2019, the ‘homerun era’ of baseball.

Additionally, if a hit equals destruction, then there is no damage and no damaged units and no need for repairs. Any damage sustained by units is assumed to be repaired following combat and/or as part of any resupply, and thus, damage does not carry from combat to combat or turn to turn. If a unit survived the combat, it was not sufficiently damaged to have been destroyed. Don’t give them a medal for it.

- ✓ Automatic ship repair is based on the time periods represented by GGDM turns and the technological capabilities inherent in the setting (e.g., possibly organic hull armor, self-repairing warships), and for ease of bookkeeping in the early parts of the game. The game does not benefit from damage tracking outside of the Combat Rounds.

“The term ‘escape hatches’ is used in Transactional Analysis to describe the idea that when faced with very difficult or trying situations, some people exit the situation by carrying out one of three behaviours. These behaviours are to kill or harm self, kill or harm others or go crazy.”

– Ian Tomlinson, “Is Closing Escape Hatches Always Possible?” Manchester Psychotherapy (UK) website, undated article, captured August 9, 2019

The Heroic & Dismal: Humans prefer games that use chance elements – dice and draws – to resolve critical issues in the game; and nothing is more chance-driven than Combat. One may quibble that strategy choices dictate the chances taken during the game – most strategy, training, organizations, and extra abilities translate basically to improving chances of success and *most strategy in dice or draw games is about stacking the odds in your favor* (i.e. Enlightenment, Combat Shifts, technologies in GGDM):

- ✓ “Three men firing at one man are usually going to win, all else being equal.” – Military Science Fiction (blog), “Types of War,” user Warcat, July 29, 2015.
- ✓ This is the key element in ‘suicide by cop’ situations; by training, the police respond to incidents with overwhelming force against individual threats. This first became necessary with the rise of armed gangs and cartels, but also is now perpetuated by domestic familial violence situations, mass shootings and modern automatic firearms

where someone can kill many in a crowded public space in a few minutes. A situation has been created where one can get the cops to do the job for you.

Still if there is any chance of failure or a chance that a bad strategy can win, it is still a game of chance. There is a chance for the heroic and the dismal.¹⁰ Having an element of chance in a game allows human players a mental ‘out’ if they lose (because it was bad luck) – especially in wargames and in multiplayer games where only one can win – and to express humility for a moment (assuming they have any) if they win (because it required some luck). Each morning that you make it to work is luck – if you think of all of the things that can go wrong, you may even have experience with some (e.g., blue lights from an alien ship that turns everyone into zombies).

Although chess is a very old and intriguing game, and most Westerners have at least a passing acquaintance with chess, few truly love the game where they are solely responsible for winning or losing, one on one, against a computer or another human (losing to a chess computer or program also provides a mental ‘out’ for the human player). Humans would be unhappy in a universe that does not contain an element of chance – it gives us something to complain about, and also provides a basis for the heroic, epic and impossible and hope or dread without certainty for either; as we have learned in the last century that the underlying universe is a statistical probability, it seems probable at least that Asimov’s Robots chose this universe for our best future.

Combat die rolls make possible hope for the seemingly hopeless situation. I have played the GMT board game, *Here I Stand* (HIS, or as the players joke, *Here I Sit*) twice, both as the Ottoman Turks (the Turks cannot affect the English, although that is historically accurate). HIS uses an abstract combat system, ships roll and they either hit or not. In one game, I had a memorable naval battle with the Hapsburgs; I outnumbered the Hapsburgs nearly 2:1 and had activated the Janissaries and had a naval leader – I was rolling over twice as many dice as my opponent. No matter how many dice I rolled, I couldn’t get a hit while my opponent rolled generous hits on my ships. The massive Ottoman and corsair force went down to ignominious defeat. In a second naval battle off the heel of the boot of Italy, with significantly reduced forces, the Ottomans fared little better. Having been ambushed and blocked on the way to Vienna and losing at sea, the superior military of the Turks was neutralized, and military power is the only way the Turks can win in HIS; more so than any other power, the Ottoman Turks win or lose HIS on a few rolls.

- Expendability: We are all expendable, for any purpose or no purpose at all. Don’t assume because someone dies there was any greater reason behind it. People get killed whether executing good plans, good strategies, and following good leaders or bad plans, poor tactics, and incompetent leaders. Military personnel understand this, civilians often do not, usually blinded by false ideas that there is some connection or equivalence between moral rightness and combat results, morality and morale. Civilian leaders simply need to understand that military acts are casualties and take public and political responsibility.
 - ✓ **Woman**: What mean expendable? **Rambo**, It’s like someone invites you to a party and you don’t show up. It doesn’t really matter. – *Rambo II* (1985).
 - ✓ “Every man has a final weapon, his life. And if he is afraid of losing it, he throws that weapon away. And that’s what they can’t quite grasp, that I’m not really afraid. And that’s what they must understand, isn’t it?” – General Gordon, *Khartoum* (1966).
 - ✓ “We’re all expendable. We think the world’s going to stop when a pope dies, or a king. And then... life goes on.” – Sylvester Stallone.

“War is something sublime because it forces every man to face the dilemma of choosing between heroism and cowardice, between the ideal and the stomach, between the spiritual instinct to project life beyond the material, and the pure and simple instinct of animal conservation. It is the brutal discriminator that distinguishes man from man, character from character, constitution from constitution: on the one side the cowardly, the soft, the hysterical, the effeminate, the cry-babies, the mommy’s boys; on the other the strong, the aware, the idealists, the mystics of danger, those who triumph over fear and those who are courageous by nature, the hot-blooded heroes and the heroes of the will.”

– Mario Carli, L’italiano di Mussolini (1930), Gazzola Stacchini (1991:494-5)

The Better Part of Valor: A successful retreat ends the unit’s participation in the combat,¹¹ and when all units of a side have retreated or been destroyed, the combat ends. Units that have successfully retreated from a combat are free to execute Actions during the next Regular Turn or join other combats later (or just retire and collect their pensions).

At the end of a combat, regardless of the results, all surviving ships have a chance of some active Constructural Elements becoming inactive. See The B-Team, 3 Disruption, p. 281, *supra*.

- **Operation Unthinkable:** Only units involved in a combat may retreat from that combat. Other units not involved remain present and may have to wait until the next Regular Turn to act. Once the combat ends, the victorious side will need to initiate a new combat to attack other positions or units that were not in the combat (except in automatic follow-through combat opportunities), i.e. they cannot continue attacking units that were not joined in the previous combat, e.g., troop transports. On the flip side, if it is desired that all ships of a side retreat from the combat, all ships of the side must first join the combat, i.e. those troop transports. Units joining a combat may attempt to retreat in the same Combat Round, *ut supra*.
 - ✓ Operation Unthinkable was the code name of the much-debated British plan for an Allied surprise attack on the Soviet forces in Germany on July 1, 1945 to drive them out of Germany. The purported political objective of the operation was to force the Soviets to abide by the terms of the Yalta Agreement with regards to Poland. The Soviet occupation of Eastern Europe was also considered a threat to Western civilization. Later planning instead anticipated Soviet attack.
- **Zigged When He Should Have Zagged:** A unit attempting to retreat from combat *may not do anything else* on the Combat Round in which it attempts to retreat. A unit attempting to retreat from a combat must have the capability of retreating; for example, colony Defense Bases may not retreat from combat (how? where would they go?).¹² The basic chance of a unit successfully retreating from combat is 50% *if it is not destroyed in the same round*. Units that fail to retreat, and are not destroyed, are still in the combat and may try again the next Combat Round or do something else.
 - ✓ Again, two elements come into play in retreats. First, to increase the ship’s chances of retreating, it should be placed near the top of the order so that it may benefit from an Enlightenment reroll if the retreat attempt fails. Second, combat is simultaneous, meaning that a ship might have been successful in the retreat roll, but was hit and/or destroyed by enemy fire before the end of the Combat Round. As noted in Army of

- Light, 2 Colleges, p. 479, *supra*, Enlightenment cannot be used to force enemy units to reroll successes.
- ✓ Fighter attacks are resolved first. The results may make it more difficult for a unit to retreat. Units that are retreating should be Combat Screened if possible, but that is a tactical and circumstantial decision. See Carrier Operations, 1 Carriers & Fighters, p. 1050, and Combat Screening, 3 Carriers & Fighters, p. 1067, *infra*.
 - ✓ For discussion of Carrier-Fighter and System Boat-Tender Ship retreats, see Carrier Operations, 1 Carriers & Fighters, p. 1050, *infra*.
- **Go Speed Racer!:** Unless otherwise provided, ship speed for interstellar travel has no bearing on system combats in the base game rules (or Blockade Running, see 4 Commerce, p. 1233, *infra*). Positions may, through Patents, potentially develop in-system and combat propulsion systems that give a significant edge in closing or fleeing speed and agility to their units in combat. They may also develop Doctrinal Templates to provide better rear guard and a more orderly retreat (see Combat Formations, 4 Colleges, p. 503, *infra*). But as a base-line rule, the game assumes that there is no tactical difference between the in-system and combat maneuver of the units of various positions.
- **Ship Zipped:** A unit that has retreated successfully from a *Ship Combat* without being destroyed must do one of two things:
- ✓ The ship must initiate interstellar movement to a supported system within range of the unit's remaining OSL (if possible) or to a supported system within Short Movement (see Space Hop, 2 Movement, p. 850, *supra*). This movement does not require any separate Power Activation. Retreating units may go to different locations, or to locations other than from where they originated, if they have the OSL or movement range.
 - Retreat to a supporting colony within the remaining OSL must be the first option. If one is not available, then retreat to the closest supporting colony is allowed, taking chances on Supply Rolls in FTL (see Limping Home and The Cold Equations, 3 Movement, pp. 862, 864, *supra*). There may be a few extreme, special circumstances where the Concierge may rule otherwise, but what is stated above must generally be the rule.
 - It is possible, but not likely, that the enemy would be able to know to which system the retreated ships moved; much of it has to do with interpretation of the technologies used and the nature of the Stardrives. Think of it as trying to track which way a flea jumped.
 - ✓ Or, the unit must retreat to a colony that has at least one Orbital Defense Base to cover its retreat (to hide behind!). In these instances, the unit is considered to be *at the colony* (as an enhancement) and *not in system space*. The ship retreating from a Ship Combat may retreat to a colony engaged currently in Colony Combat, and automatically 'joins' that combat as a defender (or maybe attacker). The colony to which the retreat is made does not need to be a sovereign colony of the ship's owner, it may be an **alien colony** if the owner consents to shelter the retreating units. Implicit in any shelter is the idea that the colony will (attempt to) protect the units from pursuit.
 - ✓ Retreating to a colony may trigger the follow-through 'free' combat initiation against colonies (*ut supra*) because the retreated units are *not in system space*. Units that

have retreated to the colony may join any subsequent defense of the colony (if able) and/or may retreat again.

- ✓ If you are wondering about surrender options, well ... that's a whole different issue. See 5 Combat generally, *infra*. But there is a very good argument that ships which cannot safely retreat may fight to the end against *alien forces*.
- **Combat Re-formation:** Attacking units retreating from a *Colony Combat* must retreat either to system space or to a colony in the same system (*ut supra*). Ground Units involved in a Ground Combat may only retreat if they can be lifted from the planet surface to available transports (see Ground Combat Resolution, 4 Combat, pp. 993-994, *infra*). The Concierge may determine that stranded Ground Units have surrendered, attempted to surrender, or scattered (see Win, Place or Show, 5 Combat, p. 1010, *infra*).

“Proportional response only makes sense when the playing field is even. We have a distinct advantage here. Problem is the other side just doesn't realise how wide the gap is. What they really need is a visual aid... Don't worry, there's no threat of residual radiation spreading. It's quick and clean – it's like cutting your enemy's heart out with a scalpel.”

– Daniel Jackson, *Stargate SG-1*, “Absolute Power” (2001)

Endnotes.

¹ **Citation:** “‘And don't tell me God works in mysterious ways,’ Yossarian continued. ‘There's nothing mysterious about it, He's not working at all. He's playing. Or else He's forgotten all about us. That's the kind of God you people talk about, a country bumpkin, a clumsy, bungling, brainless, conceited, uncouth hayseed. Good God, how much reverence can you have for a Supreme Being who finds it necessary to include such phenomena as phlegm and tooth decay in His divine system of Creation? What in the world was running through that warped, evil, scatological mind of His when He robbed old people of the power to control their bowel movements? Why in the world did He ever create pain?’” – Joseph Heller, *Catch22* (1961).

² **Commentary:** Plaintiff Attorneys need Defense Attorneys, Defense Attorneys need Plaintiff Attorneys, see?

³ **Commentary & Citation:** Initiative is a part of morale, see Morale discussion 5 Combat, p. 1006, *infra*. Two extremes of initiative:

- ✓ In the days of Napoleon's stunning victories, commanders from top to bottom displayed initiative and everyone was involved and enthusiastic (near certain victory tends to do that), to an extent unheard of in European armies which had heretofore resembled cattle (the Netherlands taxed Hessian mercenaries as cattle when crossing their territory to seaports). European military professionals aiding the American Revolution noted the difference between European soldiers and American soldiers; the former immediately did as ordered, the latter asked for an explanation why, then did sort of what they were ordered to do.
- ✓ On the other end of the spectrum is the entire underperformance of UNPROFOR in Bosnia-Serbia and in particular the 370 soldiers of Dutchbat III, who stayed in their building and did nothing to stop the genocide/massacres and rapes that they knew were happening at Potočari, that happened right in front of them, *as established by court testimony*. They were not willing to become the modern 300 – whatever their orders may have been – to protect refugees against strong Bosnian Serb VRS forces. This is forever a stain on the army of the Netherlands, which suffered so much under the Nazi German occupation.
 - Cf. Dutchbat III at Potočari to Charles George Gordon at the Siege of Khartoum (1884-1885). His decision to actively resist instead of evacuating (disobeying orders) forced the British government to send a relief force, though they did dally in the task until public opinion forced their hand.

⁴ Commentary: Defense attorneys love dilatory tactics and it is usually the responsibility of the Plaintiff's attorneys to drive the case along, frequently by threatening the file motions with the court. However, sometimes Plaintiff attorneys play the dilatory game hoping for outside events to help their case or because their case has problems.

⁵ Commentary: As mentioned in *Defending the Nothingness*, 2 *Combat*, pp. 956-958, the cordon defense is defeated by the military doctrines of concentration of force and defeat in detail, and this is true of colony Defense Bases. So, theoretically, the approaching attack fleet will only battle a portion of the colony's defenses at a time, but must eventually *battle all of the colony's defenses* to defeat the colony. On the other side of the concept, within the time periods represented by GGDM, this process is abstracted by allowing all units of both sides in a combat to fire each Combat Round, with the note in *Something Here From Somewhere Else*, 2 *Combat*, p. 960, that System Defense Bases, because of their first Combat Round isolation, can be defeated in detail, especially without Fighter support.

- ✓ This is an area where enterprising players could develop Doctrinal Templates (see *Combat Formations*, 4 *Colleges*, p. 503, *supra*) for attack in Colony Combat while the defenders may counter with their own Doctrinal Templates and perhaps enhancements to increase mobility and range of Defense Bases to allow them to counter-concentrate.

⁶ Citation & Commentary: “The influence of the American Revolution is evident in the skirmishing tactics. In addition to Lafayette, Jourdan and Berthier, scores of lesser officers had seen service in Rochambeau's expeditionary force. They returned with enthusiasm for American methods; and as the organizer of early National Guard units, Lafayette included a rifle company in each battalion. The weapon itself does not appear to have been widely adopted in the new French armies, but Hondschoote and later fields indicate that lessons had been learned in marksmanship and taking cover. Most of the Revolutionary tactics, however, sprang from necessity rather than precept or theory. Lacking magazines, Carnot's troops became less dependent on bases and lines of communication. Lacking tents, they learned to bivouac in the field where all units could be readily concentrated. Lacking supply wagons, they marched at twice the speed of better provided opponents. Thus were Guibert's doctrines of mobility put into effect – not through army reforms, as he had hoped, but by dint of military poverty!” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 455.

- ✓ This is one of the many ways in which the American Revolution, half a world away, can be strangely said to have enabled Napoleon's rise (an emergent event), which is, of course, linked to the later Louisiana Purchase (1803) because he needed cash and could not defend New Orleans against the British in any case.

⁷ Commentary: Abstract combat resolution was made popular by the *Axis & Allies* board game in the early 1980s. Note however, that other games, for example, *Stellar Conquest* (1976) were using the same system prior to *Axis & Allies* and its family of similar games (e.g., *Conquest of the Empire*, *Shogun*). The popularity of the *Axis & Allies* style combat system was such that rolling lots of six sided dice to resolve combat between non-unique units became a derisive mark of the late 1980s- early-1990s American board game (e.g., *Shattered States*).

⁸ Commentary: e.g., *Imperium* 3rd Ed (2001) of which many complained that 3-D combat added nothing to the game, or the *Saganami Island Tactical Simulator* (based on the *Honorverse* books) of which I played in a demonstration at a big convention long ago (it was probably the 1st Edition).

⁹ Citation: “In one of the bitterest blows of the Black War yet to befall the Diaspora Sector, Solomani forces launched an attack on Hice's class A starport using thermonuclear weapons. This attack completely destroyed the starport and, it is believed, killed a substantial portion of Hice's populace.” – *Traveller News Service* (*Traveller RPG*), *Imperium Date* 345-1124.

¹⁰ Commentary: In one game of *Red Storm Rising*, a Dutch battalion held off six Soviet divisions for several turns.

¹¹ Commentary: Get your tail section blown away, live to fight another day!

¹² Commentary: That would be an interesting technology: The ability to teleport Orbital and System Defense Bases. A mobile defense base force. In some sci-fi universes, interstellar navies develop heavily armored starfortresses that are slow moving, but serve as the command and logistical center of a fleet position in a ship battle.

- ✓ In *Ender's Game* (movie, 2013) the Formic – a collective, hive intelligence – attack on Earth literally falls out of the sky when the war hero, Mazer Rackham, notices that all of the Formic ships are rotating around a large ship in the center and crashes his fighter into the Queen ship from above. Like an unexpected whack on the back of the head!