

# A (Very) Brief History of Warfare

*"The study of history lies at the foundation of all sound military conclusions and practice."*

Alfred Thayer Mahan (1840-1922)

As long as history has been recorded there have been reports of war. The "first" war in mankind's history is lost in the mists of antiquity, and we may only speculate as to its causes, conduct, and outcome since there is no way of knowing what oral records of warfare did not survive. We do know that the texts of the ancient Greeks, the Chinese, and virtually all other cultures record their early and subsequent wars in varying detail.

Man's study of (some might say fascination with) warfare has a very reasonable explanation. Those societies which do not remain proficient at warfare are overrun by their more militant neighbors in short order. The enduring rule of international relations is that those nations which are big enough to wage war successfully set the rules. Wars result when one or several nations perceive a weakness on the part of another nation or group of nations and act to take advantage of that perceived weakness. The myth of the two biggest military powers inevitably meeting on the battlefield (like the two biggest bullies in a neighborhood) is vacuous. Great powers usually go to great lengths to avoid direct conflict with each other.

A study of the conduct of war reveals several interesting patterns, and an imperfect pattern of progress. A brief synopsis (concentrating on warfare in the western tradition) might look something like this:

## Tribal Conflict (Stone Age):

Small, mainly theatrical, battles are fought in "no man's land." Said Battles were likely conducted with missile weapons and in loose order, seldom closing to hand-held weapons range. Raids and skirmishes were more likely to result in heavy loss of life than battle proper, where relatively few casualties were suffered. Very primitive weapons were supported by simple tactics.

Little or no cohesion and command.

## Early Nation/State(s) (Bronze Age):

Larger battles were conducted on the territory of one of the belligerent nations. Hand held weapons began to dominate the battle field, missile weapons began to lose some effectiveness due to armor and shields. Battles began to produce more casualties than raids and skirmishes, and overall casualties increase. Weapons and tactics became more sophisticated, the infantry phalanx and mounted troops (cavalry and chariot troops) first appeared. Fortifications gained importance as defensive measures, and siege warfare was developed as a counter. Mercenaries also made their first appearance.

Cohesion and Command became, for the first time, essential to victory. The commander's ability to influence the battle was limited to dispositions made prior to contact. After contact the commander could not reliably alter the disposition of his troops and was limited to setting a personal example.

## Early Empires (Iron Age):

Battles became larger yet, and campaigns developed. Sword and shield dominated the battlefield, pike, spear, and missile weapons remained important but somewhat less dominant. Battles became increasingly bloody. Rome developed infantry tactics and organizational structures which survived into the twentieth century. The sciences of fortification and siege continued to develop. Mercenaries became increasingly common, as cavalry developed (but is limited in mounted effectiveness without a stirrup).

Cohesion and effective Command became demonstrably linked to victory, battle field communications became problematic as methods fail to improve while the size and complexity of battle increase.

## Middle Ages:

Battles became smaller, though campaigns became more common. The heavily armored mounted knight became dominant in European land warfare as stirrups allowed effective fighting while mounted and moving at speed. Infantry, using pike, spear, and missiles, remained important. The Long Bow became especially respected following the battle of Agincourt, and the Crossbow soon began to supplant the longbow (despite being outlawed by the Catholic Church) due to its (relative) ease of mastery and mass production.

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Cohesion and Command lose ground, and communications become more difficult as the battleground continues to grow in depth and breadth.

### Renaissance:

Gunpowder and the weapons that use it started to become common. The bow and crossbow began their fall from grace, replaced by the new gunpowder missile weapons. Low reliability and slow rate of fire required that musket wielding infantry be supported by pike men to keep charging Cavalry at bay. Walled fortifications were found to be vulnerable to the new artillery. Battles and sieges became very bloody. Mercenaries, especially the Swiss, became the most effective fighting forces in Europe. The heavily armed and armored knights faded as they become vulnerable to firearms and hand held weapons such as the rapier and stiletto.

Cohesion and Command regained the importance they lost in the Middle Ages, effective communications became very difficult on the battlefield.

### Musket and Pike:

The period beginning with the standardized musket and ending with the American Civil War was a uniquely static era in terms of weapon and tactical development. The various armies of Europe became virtually interchangeable with the exceptions of language and uniform. The same weapons, formations, and tactics would be used time and time again throughout the 18th and well into the 19th centuries. Armies and fortifications usually surrender when isolated rather than fight pitched battles.

Command and Communication become fairly effective on the battlefield but remain problematic on the operational and strategic levels.

### American Civil War:

The American Civil War was the first war of the industrial era and is considered by many to be the first "Modern" war. It marked the ascendancy of strategic mobility and logistics over tactical (battlefield) mobility (largely due to rail and steam boat transportation). Communications and intelligence also experienced improvements at the strategic and operational levels without commensurate improvement at the tactical level (the telegraph and large

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distribution newspapers). The level of destructiveness also increased significantly, with rifles and carbines becoming common and out-ranging the artillery of the day. The gattling gun (a precursor of the maxim machine gun of World War One) appears as an adjunct to artillery. Cavalry becomes more of a scouting force and less of a combat force due to the accuracy and range of infantry weapons.

Battlefield command and control fail to keep up with the increasing size and complexity of the battlefield while Strategic and Operational Command and Control make significant gains. The commander at the tactical level is still limited to what he can see with his own eyes and must communicate by messenger. Radical re-deployment of forces after contact remains virtually impossible.

### World War I (Western Front):

World War One was hailed as “The War to end all Wars” due to the incredible losses suffered by both sides in terms of men and materiel. The First World War (especially the Western Front) was a perfect example of how not to fight a war. An initial series of mobile battles was rapidly replaced by a series of increasingly complex fortifications along a static front that stretched from Switzerland to the North Sea. As fought in the trenches of the Western Front, World War One was a triumph in the development of weapons, strategic mobility, strategic communications, and logistics support to fixed locations without commensurate gains in tactics and maneuver. Huge offensives were carried out over large fronts resulting in small gains that were easily contained by troops free to maneuver behind their own lines. The war of attrition that resulted became a meat grinder for the youth of a generation without yielding a clear military victor.

Battlefield command and control fell further behind strategic systems resulting in a near total loss of tactical and operational flexibility. The field telephones and radios of the day are suitable for higher headquarters only, and Artillery, Logistics support, and reinforcements cannot keep pace with advancing troops over the rough terrain of the trench works while the defender remained free to bring up the same force multipliers.

### World War II:

The bitter lessons of the First World War were well and truly learned and applied by the Second World War. A new mobile form of warfare was predicted by several theorists and was developed and perfected by the Germans between the wars to prevent a repeat of the

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static trench warfare of the First World War. This Blitzkrieg (Lightning War) method utilized highly mobile armored spearheads to rapidly break through defensive positions on a narrow front and wreak havoc on the rear areas. The Blitzkrieg was first demonstrated against a well-prepared foe in 1940 as the Germans destroyed the French Army in a matter of weeks and forced the British Expeditionary force to flee the continent at Dunkirk. The Tank became the modern equivalent of the heavy armored knights of the middle ages and the airplane became the new scouting and raiding force capable of disrupting the enemy far behind his front lines.

Command and control at the tactical level make gains with man- and vehicle-portable radios and field telephones. The operational art of Blitzkrieg demands a forward commander with good communications in order to coordinate rapidly moving forces using combined arms. By the end of the conflict the advocates of Air Power would declare that land and naval warfare are obsolete in the face of long range strategic bombers and nuclear weapons.

### Korea:

The non-war in Korea began with a surprise attack that forced U. S. forces to retreat to a small salient near Pusan and await desperately needed re-enforcement. The mountainous terrain of Korea lent strength to prepared defenses and tended to shape warfare on the peninsula back towards the WWI meat grinder as static defenses proved difficult to crack in the rugged terrain and brutal weather. MacArthur gambled on maneuver via an amphibious assault at Inchon, and drove the North Koreans all the way to the Yalu River before the Chinese joined the fray. Air Power proved extremely effective in support of front line troops and in interdicting enemy units and supplies on the move **near** the battlefield. The tactics and operational art employed in Korea prove to be a mixture of WWI and WWII, with movement and communication hampered by the harsh terrain and worse weather.

### Vietnam:

Vietnam provides another good example of how not to fight a war (if you have any interest in winning). Vietnam was a technological triumph that prostituted operational art and tactics to micro management from the strategic level. The vast improvements in strategic communications allowed strategists (or those who *should* have been determining strategy) to run a war from thousands of miles away, thus removing the insight and experience of the on scene commander from the equation. A superior force of arms with superior mobility was

thus squandered by these strategists who abandoned strategy to direct daily operations.

## Desert Storm:

In terms of Military History, “Desert Storm” may well be a tale “full of sound and fury, signifying nothing.” It was an unlikely mismatch of competence versus incompetence; cutting edge technology versus last generation’s technology; a desert trained army versus a swamp and mountain experienced army; and a doctrine of maneuver versus a doctrine of attrition. Like Agincourt, Desert Storm set a record for the price of defeat on the field of battle, while remaining elusive as to cause and lessons. Despite (or perhaps because of) the improved communications and weapons at the tactical levels, coalition losses to “Friendly Fire” were fully twenty-five percent of the total losses. The Iraqi losses may never be known in detail, but were at least thirty-thousand (30,000) killed in action as opposed to one-hundred forty (140) killed in action for the coalition forces. The following “Lessons” from Desert Storm, when referenced to our thumbnail sketch of military history, appear to be fairly certain:

- Combined Arms works and yields synergistic results.
- Effective Command, Control, and Communication are essential to effective military operations, and especially so to Combined Arms and Maneuver Warfare.
- Static or Attrition Warfare only works if the opponent cooperates.

Having dealt (in a cursory manner) with the History of Land Warfare, we will next deal with the opposing concepts of Attrition Warfare and Maneuver Warfare, and see how these two conflicting concepts have developed and how they shaped the outcome of Desert Storm.

# MANEUVER WARFARE

*Nearly all the battles which are regarded as masterpieces of the military art, from which have been derived the foundation of states and the fame of commanders, have been battles of maneuver.*

Winston Churchill: *The World Crises*, ii, 1923

A careful examination of history (as opposed to the cursory review in the preceding section) will reveal that man's experience in waging war has produced two conflicting approaches to warfare. One of the best ways to identify the historical uses of the two methods of warfare is to examine the results. Just as some wars are bloody stalemates, others are quick, decisive, and relatively bloodless. Interestingly, the results have less to do with force ratios and weapons technology and more to do with the way that conflicts are prosecuted. The style of warfare most likely to produce drawn out and bloody affairs is Attrition Warfare. The antithesis of Attrition Warfare (which tends to produce decisive results) is Maneuver Warfare.

Attrition Warfare is war according to the Marquis de Queensbury, wherein strength meets strength and force meets force. Surprise, deception, and feint are rejected in favor of mass and massed firepower. The enemy will be defeated when he ceases to exist as a force on the battlefield. Much energy is expended to bring the enemy to a decisive battle, so he may be destroyed. Attrition warfare ignores the psychology of the men involved, and focuses instead on tangible and quantifiable phenomenon such as weapons effects and body counts.

Maneuver Warfare is war by unfair and unexpected means, wherein strength is applied against weakness, and the enemy's strength is avoided. Battle is given only when it serves the greater purpose, or when it cannot be avoided. Battles which favor the enemies strength are strenuously avoided. The goal is not to bring the enemy to battle, rather, it is to remove his ability, or will, to continue the fight. In the words of Sun Tzu: "A victory gained before the situation has crystallized is one the common man does not comprehend. Thus it's author gains no reputation for sagacity. Before he has bloodied his blade the enemy has already submitted."

Having provided this thumbnail sketch, a closer examination is in order. But before we can further compare and contrast Attrition and Maneuver theories we must first define our terms and identify the levels at which war is conducted.

The lowest level of warfare is the most visible and the most commonly examined level, the level of Tactics. The Tactical Level is where men and machines of opposing forces collide. Battles are planned and fought by tactical units. Tactics are the realm of units as small as the individual man or vehicle, and as large as the Division (usually) or Corps (less often). The emphasis at this level lies in defeating the enemy.

The intermediate level of warfare is that of Operations. The Operational Level plans and directs campaigns and major engagements in order to achieve a set of *strategic* goals determined by the national command authority or the theater commander. The Operational Commander strings battles and engagements (both won and lost) together, giving battle only when it serves his greater purpose (if he is an adherent of Maneuver Theory), into a campaign that will achieve the strategic goals with economy of force. Operational Art is the realm of Corps and Armies (or Army Groups).

The highest level of warfare is the Strategic Level. The level of Strategy and Grand Strategy is the realization of Von Clausewitz's dictum that "War is politics by other means." The goals the military will strive for are determined here. The National Command Authority will determine what national interests are, establish priorities, and determine how to go about ensuring national interests while preventing an adversary from achieving his goals. The theater commander will similarly develop a theater strategy in support of the national strategy utilizing the forces assigned to him by the national command authority.

In defining the levels of planning and conduct for warfare I have already used several terms which also demand a strict definition, if only to reveal my own biases and ensure accurate communication. It is not my intent to present dogma or establish a convention (other than for the purposes of this manual), but rather to communicate clearly some principles of a discipline that is arcane to most civilians. The first of the often slippery terms I will address is Strategy.



In his book *Strategy: The Logic of Peace and War*, Edward M. Luttwak makes an interesting point about Strategy :

Lacking careful definition, *strategy* has many. The word is used variously for strategy as the *doctrine* of this or that state or military institution, for strategy as actual practice, and for strategy as *theory, science, and analysis*. *The entire realm of strategy is pervaded by a paradoxical logic of its own*, standing against the ordinary linear logic by which we live in all other spheres of life (except for warlike games, of course).<sup>1</sup>

This “Paradoxical Logic” derives from the fact that war is a largely psychological endeavor, where perception can be as important as, and in some situations more important than, the reality of a situation. Since warfare is also a contest between opposing commanders, the obvious choice or path is often the least desirable, since the enemy will also identify that choice or path and take steps against its exploitation.

In this manual I will use **Strategy** to mean the grand plan or scheme under which military operations are conducted against an opposing force in order to achieve a national aim or goal, or to defend national interests against the armed forces of a hostile nation. As such, it will be obvious that PATRIOT is not a Strategic Game, but rather a game in which the player is charged with carrying out a Strategy determined at a higher level.

The next term on our list requiring careful definition is Tactics. For the purposes of this manual I will define **Tactics** as the art and methodology of defeating an enemy by force of arms.

The third elusive term is Operations. Once again, for the purposes of this manual, I offer the following definition— **Operations**: The synthesis of battles, engagements, and movement forming a pattern intended to achieve the strategic goals of the Corps or Army.

Other important terms include:

**Center of Gravity**: The center or nexus of effective fighting power.

**Combined Arms**: Coordination of Infantry (whether mounted or dismounted), Armor, Artillery (including Naval GunFire Support {NGFS}), and Air Support (Fixed Wing, Rotary

Wing, and Cruise Missile) to yield a synergistic effect upon combat power.

**Culminating Point:** The point in space and time where a combat unit's ability to maneuver is overcome by enemy action and/or friction.

**Deception:** Misleading the enemy as to intentions, location, and abilities of friendly forces.

**Dislocation:** Causing the enemy to move from his preferred terrain or environment to a terrain or environment disadvantageous to him and advantageous to friendly forces. Also, removing an element (or elements) of the enemy force, or removing an aspect of the environment that renders the environment disadvantageous to the enemy.

**Disruption:** The act of attacking an opponent's critical vulnerability such that his further attempts (if any) to fight are disorganized and uncoordinated.

**Envelopment:** The act of passing friendly forces around or through the enemies main defensive positions to seize objectives in the rear, thus disrupting the enemies lines of communication. Also the act of surrounding an enemy to isolate him from his sources of supply and command.

**FEBA:** The Forward Edge of the Battle Area, this is the traditional line or front. LINE Units operate at the FEBA, RESERVE and SUPPORT units operate behind the FEBA, and COVERING units operate forward of the FEBA.

**Flank:** The areas 90 degrees to either side of a unit's front facing that are usually more vulnerable since they are less carefully watched and defended.

**FLOT (Front Line Of Troops):** The furthest extent of friendly troops along the axis of expected enemy approach.

**Friction:** Unforeseen problems, accidents, and situations that tend to reduce a unit's mobility and cohesion, independent of enemy action. May be thought of as the "Murphy" factor (That which can go wrong, will, and at the worst possible moment).

**Front:** The direction in which a unit is facing, or the direction in which the commander is concentrating his attention (Where the head goes, so follows the body).

**Interdiction:** The process of inflicting losses on the enemy before he can bring his combat power to bear, or of preventing the enemy from moving behind his own lines.

**Preemption:** The act of seizing the initiative and striking the enemy in an area of critical vulnerability before the enemy can prepare for the blow. Some famous (or infamous, depending on one's point of view) examples of Preemption are Pearl Harbor (December 7, 1941), the Six Day War (June 5, through 10, 1967), and Manila Bay.

**Rear:** The direction opposite a unit's front, which is usually the direction from which re-supply and re-inforcement's arrive. The rear is the most vulnerable area in a military formation, and disruption of the rear has profound effects upon moral, supply, and cohesion.

**Salient:** A bulge or indentation in an otherwise regular line between opposing military units. A salient poses both the threat of a breakout by the force that has established the salient, and the danger of envelopment of that force should the defenders mount a successful counterattack at the base of the salient.

**Vulnerability:** An area or aspect of an enemy's disposition which is essential to his continued ability to wage war.

Petty geniuses attempt to hold everything; wise men hold fast to the key points. They parry great blows and scorn little accidents. There is an ancient apothegm: he would preserve everything preserves nothing. Therefore, always sacrifice the bagatelle and pursue the essential.<sup>2</sup>

Note that a Vulnerability does **not** equate to a weakness, as a vulnerability may be heavily defended. Vulnerabilities are the target of choice for commanders who practice maneuver theory.

**Weakness:** An area or aspect of an enemy's disposition which may be exploited at reduced risk of casualties.

Having defined our terms, we can now proceed to a discussion of the history and employment of the contrasting forms of warfare.

Attrition warfare is the embodiment of brute force and the “fair fight.” The winner in a war of attrition is the side still standing when the fighting is done. To achieve this level of violence and decisiveness, the practitioner of Attrition Warfare attempts to bring the enemy to battle, and then wrestle him to exhaustion and collapse. The practitioner of Attrition Warfare thus attempts to destroy the enemies strength with his own strength. Two excellent historical examples of this style of warfare are the First World War (1914-1918, Western Front) and the Iran/Iraq war (1980-1988).

Maneuver Warfare is a term so simple that it is often misleading. The immediate image of troops and vehicles maneuvering across a battlefield is both accurate at the micro level of examination and grossly misleading at the macro level. Practitioners of Maneuver Warfare seek to strike the enemy’s critical vulnerability, preferably through an area of weakness. What does this mean? Rather than attack on a broad front targeting the enemy’s strength, the practitioner of Maneuver warfare will either find a hole (or flank to exploit), or create such a vulnerability (by creating a narrow breach), in order to reach the areas where the enemy can least afford to find hostile troops.

The “Left Hook” of Desert Storm was a near classic example of Maneuver Theory in action. Rather than assault the Iraqi’s through their prepared defenses, the Coalition forces used a pinning attack along those fortifications to distract and pin the Iraqis while the VII and XVIII Corps rounded their un-protected flank to the west. The Iraqi Strategic Reserve (the Republican Guard Forces) was thus struck from the flank and rear by fresh forces instead of themselves striking the flanks of troops that had already been obliged to fight their way through the Saddam Line.

## End Notes

1. Edward N. Luttwak, *Strategy: The Logic of Peace and War*, (The Belknap Press of Harvard University Press, Cambridge, Massachusetts, and London, England) p. 4.
2. Frederick the Great, *Instructions for His Generals*, vii, 1747.

Notes:

# The Principles of War

*War acknowledges principles, and even rules, but these are not so much fetters, or bars, which compel its movement aright, as guides which warn us when it is going wrong.*

Alfred Thayer Mahan, 1840-1922

In the previous chapter several terms were introduced to facilitate communication and understanding. The next area of discussion, following general theory and history, is the area of Doctrine. Doctrine has been defined as “The body of principles in a branch of knowledge.” In its military form Doctrine is best described as “The principles and methodologies by which a military force prepares itself for combat.” Most military organizations have a more or less formalized doctrine which has a strong influence on how they fight.

In order to understand Doctrine, we must again lay a foundation for mutual understanding. This time the vocabulary consists of the words and phrases essential to understanding the Principles of War. As presented here the Principles of War echo (but do not exactly reproduce) and expand upon those of the United States Army as set forth in their Doctrinal Field Manual *AirLand Battle* (FM-100-5). Note: the Principles drawn from FM-100-5 are marked with a bullet (•).

**Defense:** Frustrating the enemies offensive measures, preventing the enemy from accomplishing his objectives. Note that a defense can only frustrate or delay the enemy; defensive measures will not remove the enemies will or ability to continue the fight. The Defense is relatively safe, but like most safe bets there's not much to be gained...

• **Economy of Force:** This term is a dangerous one in the civilian parlance. It does not mean the minimum force required to get the job done, rather it means bringing the greatest power possible to bear at the point of the enemies critical vulnerability. A better term for civilians would be “Economy of Friendly Casualties.” Economy of Force may also require that forces elsewhere in the theater or along the front be stripped to dangerously low levels in order to bring the requisite force to bear at the critical point. Go big early or stay at home...

**Force:** From physics, we know that  $F=ma$  (Force equals mass times acceleration). The same can be said of military force in the Maneuver model. We thus see that to the practitioner of Maneuver Warfare mass is of equal weight with acceleration (where acceleration is the ability to change direction and speed over ground and mass is the fire power of the unit).<sup>2</sup> Sometimes it's not so much how big, but how quick you are and how fast you're moving...

**Initiative:** He who holds the initiative forces the enemy to react instead of acting to implement his own plans. If you can make him dance to your tune, the game's half over...

**Initiative of Subordinate Commanders:** Objectives should be narrow enough to get everybody headed in the same direction and broad enough to leave the details to the subordinate levels. If you'll let them do their job, your men will surprise you by just how creative and efficient they can be...

- **Mass:** The accumulation or concentration of combat power at the decisive place and time (as per FM-100-5). Mass is more traditionally considered to be simply an accumulation or concentration of combat power. As such (the traditional definition), mass is usually the tool of the Attrition Warfare types, since large masses are difficult to set in motion...

- **Maneuver:** Place the enemy in a position of weakness through the flexible application of combat power at unexpected times and locations. Maneuver is achieved by mobile forces, and seeks to bring about positional advantages over the enemy or to force the enemy to fight at a disadvantage.

**Mobility:** Forces must be mobile to avoid the strength of the enemy and to exploit weaknesses in his position. A mobile force can decline combat that does not favor them and force the enemy to fight on terms other than those he prefers. If you're fast enough, you can choose when and where to fight.

- **Objective:** The immediate goal of the encounter, battle, operation, major operation, campaign, or war. Any operation at any level **must** have a clearly stated and achievable objective to be realistic. Politicians who fail to grasp this fact of military life learn it at their enemies' leisure in the blood of their own troops. It's kind a hard to get "there" if you don't know where "there" is...

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- **Offensive:** A defensive posture may frustrate an enemy, grind down his forces, and prevent him from achieving his goals, but it will not remove his ability or will to fight. The fight must be taken to the enemy in order to remove his will and ability to continue the fray. You can make the opposition bleed by making them come to you, but if you want to remove the enemies will or ability to fight, you must take the fighting to them...

- **Security:** The enemy must be prevented from gaining useful information about friendly forces through reconnaissance. Reconnaissance must screen friendly forces to provide ample warning of enemy actions from unexpected quarters (thus preventing surprises). Never let them see your cards, and don't get caught drawing to an inside strait...

- **Simplicity:** Battle plans and contingency plans should be kept simple. The greater the complexity of the plan, the greater the probability of it going awry. The KISS principle applies (Keep It Simple, Stupid), and no battle plan survives contact with the enemy...

- **Surprise:** Forces the enemy to respond to an unanticipated threat from an unanticipated quarter, thus slowing his decision cycle and slowing effective response. The sucker punch is the best punch...

- **Unity of Command:** There can only be one commander per organization. A chain of command with more than one man in the top slot cannot reach timely decisions and react to rapidly changing circumstances. A two headed snake will as likely argue with itself as bite you...

## Doctrine

### U. S. Doctrine

From these underlying principles and the previously discussed definitions spring Doctrine. The U.S. Army's Doctrine, as expounded in FM-100-5 (*AirLand Battle*), and practiced in the deserts of Iraq and Kuwait, was based on countering the Soviet doctrine of mobile warfare. *AirLand Battle* also makes a concerted effort to break the historical tradition of new weapons technology driving tactical and operational doctrine. Instead, the designers of

*AirLand Battle* sought to use doctrine to drive technical development. To some extent this worked, as the troops were able to use the lessons they had learned in the sands of the National Training Center to employ (for the first time in combat) a new generation of weapons against the Iraqis in the Deserts of Kuwait and Iraq.

The tenets of *AirLand Battle*, drawn from that document, are:

**Agility:** The Commander and the Units under his command must be able to move quickly about the battlefield in order to bring force to bear at a point of enemy vulnerability or friendly weakness.

**Initiative:** The successful commander must gain and maintain the initiative.

**Depth:** The successful commander must strike the enemy throughout the breadth and depth of the battlefield.

**Synchronization:** The effects of divergent forms of combat power applied at the same location and at the same time are synergistic. For this reason, the successful commander will strive to coordinate direct fires, indirect fires, aviation support, electronic warfare assets, and deceptive efforts in order to present the enemy with an overwhelming onslaught.

At this point you've probably realized that there is a possible conflict between the Principle of Simplicity and the Tenet of Synchronization. The resolution of such dilemmas such as the primary business of the Commander. The Commander must decide if the potential benefits of simultaneity outweigh the dangers of a complex plan. He must also weigh just how reliable he considers his intelligence concerning the enemy's disposition and intentions. When the "Fog of War" intrudes, warfare becomes less of a chess game and more like poker.

A condensation of U.S. Army Doctrine might be stated thus: Hit the enemy constantly over the depth of his deployment, including units in reserve and transit. Defend when you must, and wait for an opportunity to exploit an enemy mistake or vulnerability and shift to the offensive. Keep the enemy off balance, and force him to react to your plans instead of executing his own. Once you go on the offensive, hit the enemy with everything you can and follow up while he is reeling from the blow. The goal is to transition to a pursuit and destroy the enemy in detail.

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## Iraqi Doctrine

The Iraqi armed forces developed and practiced a doctrine of Strategic Defense, based on elements borrowed from the Soviets and the Colonial Era British and their experiences in combat against the Iranians. The end result was a doctrine that closely resembled the French Doctrine that evolved during and following the First World War. The Iraqi's thus adopted a continuous front consisting of interlocking fortifications in depth. These fortifications were designed to pin an enemy until local and theater reserves could be brought to bear. The resemblance between the Saddam Line and the Maginot Line were thus more than skin deep. They both sprang from the same doctrinal thinking, and they both fell to the same doctrinal countermeasure.

### Forms of Offensive and Defensive Combat

Offensive Combat consists of several types of actions built from the **POSTURES**, **SET UNIT BOUNDARY**, and **OBJECTIVE** commands of **PATRIOT**. Three of the **POSTURES**, **MOUNTED ATTACK**, **DISMOUNTED ATTACK**, and **PROBE** roughly correlate to Hasty Attack, Deliberate Attack, and Probe. The others require more work on the part of the Commander...

**Hasty Attack:** This is a "Hurry Up" affair which seeks to take advantage of surprise or a shift in initiative. Close coordination and (in some cases) combined arms are forsaken to seize the moment. Roughly analogous to the **MOUNTED ATTACK POSTURE**.

**Deliberate Attack:** This is a carefully planned coordinated assault, intended to bring the maximum force to bear at a predetermined point. Roughly analogous to the **DISMOUNTED ATTACK POSTURE**.

**Movement to Contact:** Movement to Contact occurs when opposing forces are not in contact and one side decides to gain and maintain contact. The side attempting to gain contact advances over a fairly broad front in order to locate the enemy, and then transitions into a hasty attack to pin the enemy to his current location.

**Meeting Engagements:** These "Just sort of happen." A force encounters an enemy

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force as it advances, and a battle ensues. Meeting engagements favor the side which is least surprised and most able to respond effectively in a rapidly changing situation. The battle of 73 Easting during Desert Storm was a near classic example of a meeting engagement.

**Penetration:** This form of attack seeks to punch a hole in the enemy's defenses through which an exploitation force may be inserted to wreak havoc on the enemies rear area. Penetrations are costly and difficult to achieve, and result (at least temporarily) in a Salient that can be a threat and an opportunity for both sides. Note also that a Penetration (or Penetrations) can be the opening bid in an attempt to conduct a Single (or Double) Envelopment. The German Ardennes Offensive of 1944-45 (The Battle of the Bulge) was an attempted penetration.

**Single Envelopment:** A single envelopment is often referred to as turning a flank (In the U.S. Army's parlance, a Turning Maneuver occurs at a distance from the FLOT, while a Flanking Maneuver moves along the fringe of the FLOT). Both France 1940 and Desert Storm were excellent examples of Single Envelopments.

**Double Envelopment:** A double envelopment seeks to turn both of the enemies flanks and encircle his forces. Hannibal's destruction of a Roman Legion at Cannae in 202 B.C. remains the classic example, and the Falaise Pocket on the Western Front of WWII (circa 1944) is a more recent example.

**Exploitation:** The Exploitation phase is the preferred tool of the practitioners of Maneuver Warfare. Once a penetration has been achieved or an envelopment has occurred, fast moving forces are inserted to exploit the enemies rear areas. Under ideal conditions the exploitation becomes a pursuit as the enemy either retreats or routs. It is the exploitation phase that inflicts the greatest enemy losses for the lowest cost to friendly forces.

**Vertical and Amphibious Envelopment:** These are means of creating and exploiting vulnerable flanks without resorting to penetration. Instead of punching through, a force is inserted into an enemies rear by air or by sea. The pay off can be enormous, but the risks are equally large. The forces suitable for this type of envelopment are light and cannot sustain continuous heavy combat. They must rapidly link up with friendly heavy units (or receive reinforcements and resupply across the Beachhead or Airhead) or perish.

Defensive Tactics also have several constituent mission types. PATRIOT's POSTURES reflect two of these missions: DELAY and DEFEND POSTURES translate roughly to the generally accepted definitions of the Delay and Defend missions.

**Screening:** Units assigned to screen a formation provide early warning of approaching enemy forces and inflict the first casualties on the enemy by destroying the reconnaissance and advance guard units of the enemy force.

**Cover:** A unit performing a covering action is literally running interference for another unit engaged in other activities. The covering unit will discover and engage enemy units which threaten the unit being covered, and report the location and nature of the enemy force encountered to the commander.

**Delay:** Units assigned to delay the enemy will attempt to trade space for time to enable the main body to prepare for the oncoming assault (allowing the main body to prepare a defensive position or set up for a counter attack.). The DELAY POSTURE may place the unit performing the delaying tactics in extreme danger, based on the time they must forestall the enemy advance and the amount of territory available to maneuver on.

**Defend:** A unit ordered to defend will stand its ground and inflict maximum punishment on enemy units attacking their position. The goal is to either hold a specific piece of ground or to destroy the enemy units committed to the attack. Placing a unit in the DEFEND POSTURE means that the loss of the unit is less important to the commander than the loss of the terrain or the destruction of the enemy force.

**Counterattacks:** A counter attack is a shift from the purely defensive to the offense when an enemy attack presents a vulnerability. Counterattacks are generally Hasty Attacks intended to inflict punishment on the enemy force or seize the initiative.

Notes:

# GLOSSARY OF TERMS

## A Alpha

A-4: "Skyhawk" land based (formerly carrier based in U. S. Navy Service) light attack aircraft. Operated by Kuwaiti Royal Air Force (in exile).

A-6: "Intruder" carrier based medium attack aircraft, all weather day and night. Equipped with both a computer aided bombing system and laser designation and low light systems. Prime player for CAS and Battlefield Interdiction.

A-7: "Corsair II" carrier based light attack aircraft. Day attack and CAS aircraft.

A-10: "Thunderbolt II" land based close ground support, anti-armor attack aircraft. Limited nighttime capability with LANTIRN, primarily a daytime attack and CAS aircraft, outstanding against armor and vehicles. Unofficial nickname: "Warhog."

ABCCC III: Airborne Battlefield Command and Control Center. Another experimental system field tested during Desert Storm. Provided early warning of Iraqi movements and traffic information useful to location and targeting of fuel and munitions dumps.

AH-1: "Huey Cobra"( Army AH-1S) "Sea Cobra"(Marines AH-1W) day/night attack with some capability in heavy weather. CAS, anti-tank helicopter.

AH-64: "Apache" day/night limited all weather helicopter. Designed for CAS and anti-tank

missions, in use with the U. S. Army.

ALARM: Advanced Long range Anti-Radiation Missile. Field tested by the British (RAF) during Desert Storm.

AMRAAM: Advanced Medium Range Air to Air Missile (AIM-120), fielded but not used by USAF, USMC, and USN combat aircraft during Desert Storm.

AMX-30: French main Battle Tank. Optimized for speed and acceleration when designed in the '60s, now under gunned, under armored, and slower than the current British, German, Soviet, and American MBT's.

AT-4: Anti-Tank guided missile (Soviet Design/ Manufacture).

ATACAMS: US Army very long range missile artillery system (2 missiles mounted on the launch system for the MLRS system), field tested during Desert Storm (primarily in Counter Battery fire). ...Referred to by the Iraqis as "Steel Rain."

ATO: Air Tasking Order, Daily message order detailing all Aircraft Activity over land in the Kuwaiti and Iraqi theater of operations, also the computer system used to generate same. Note that the ATO took 12 to 24 hours to put together, and was poorly suited to close air support of ground troops (CAS) and prosecution of mobile targets (such as SCUD launchers).

AV-8B: "Harrier II" land (and ship) based close air

support VSTOL aircraft, designed for use from minimal/rough airfields near the battle area. Operated by the United States Marine Corps.

**AWACS:** Airborne Warning And Control System. Combination of Aerial Radar, Extensive Communications, and computer assisted intercept controllers in a modified Boeing 707 airframe (E-3 "Sentry"). The Traffic Cop of the Air War.

**ABOUT:** Menu Item, (under the **FILES** Menu Subject, short cut key: (A)).

**Abrams:** The M1 and M1A1 Main Battle Tank.

**Agility:** The ability to rapidly change the axis and speed of advance for a military unit.

**Airborne:** 1) Paratroopers, 82nd (U. S.) "Airborne" Division, French 11th Para Regiment.  
2) A system or object carried by an airplane or helicopter.

**Airborne Battlefield Command and Control Center (ABCCCIII):** Airborne Battlefield Command and Control Center. Another experimental system field tested during Desert Storm. Provided early warning of Iraqi movements and traffic information useful to location and targeting of fuel and munitions dumps.

**Airborne Early Warning:** The combination of an air search radar and an airframe. Examples, E-2 "Hawkeye", E-3 "Sentry", IL-76 "Mainstay."

**Airborne Warning And Control System(AWACS):** Airborne Warning And Control System. Combination of Aerial Radar, Extensive Communications, and computer assisted

intercept controllers in a Boeing 707 airframe (The E-3 "Sentry"). The Traffic Cop of the Air War.

**Aircraft Carrier:** Source of many CAS missions and of the majority of Reconnaissance and SEAD missions during Desert Storm.

**Airhead:** The location at which an air assault or airborne assault is conducted. The Airhead becomes the logistic base for the assault forces.

**AirLand Battle (Doctrine):** The U. S. Army's official warfighting doctrine as promulgated in FM-100-5 (titled *AirLand Battle*).

**Air Assault:** Light Infantry teamed with transport helicopters and helicopter gunship support. Example, 101st (U. S.) Infantry Division (Air Assault).

**AIR/MARINES:** Menu Subject.

**Air Power:** That which exerts combat power from the air. Proponents of air power, starting with Giulio Douhet in 1921, have claimed that all other forms of combat power were obsolete. History had demonstrated otherwise.

**Air Tasking Order:** Daily message order detailing all Aircraft Activity over land in the Kuwaiti and Iraqi theater of operations, also the computer system used to generate same. Note that the ATO took 12 to 24 hours to put together, and was poorly suited to close ground support and prosecution of mobile targets (such as SCUD launchers).

**Al Hussein (Missile):** Iraqi modifications to the Soviet "Scud" ballistic missile.

**Amphibious Assault:** Attacking a hostile force or



nation with land forces deployed directly from the sea.

**Amphibious Envelopment:** Using an Amphibious Assault or an un-opposed landing to create a vulnerable flank.

**Apache:** (AH-64) Attack Helicopter, close air support, anti-tank. In use with the U. S. Army.

**Arabian Gulf:** What everyone who lives in the area, except the Iranians (formerly known as the Persians), calls the Persian Gulf.

**Arabian Sea:** The body of water between the Straits of Hormuz and the Horn of Africa, linking the Persian (Arabian) Gulf and the Red Sea to the Indian Ocean.

**Army:** Three or more Corps under a single headquarters.

**Army Group:** Two or more armies under a single headquarters.

**Artillery:** "The King of Battle." The branch of land warfare that delivers death at long range via in-direct fire.

**Attrition:** The process by which men and materiel are destroyed, and by which supplies and munitions are consumed.

**Attrition Warfare:** A relatively static type of warfare wherein one or both sides attempt to inflict unacceptable losses on the enemy.

**B Bravo**

**B-1:** The U. S. Air Force's "Lancer" Heavy (Strategic) bomber. A no show during Desert Storm due to engine problems and Nuclear Alert Status.

**B-2:** "Stealth Bomber." A no show for Desert Storm, as it was not equipped to deliver precision guided munitions.

**B-52:** The U. S. Air Force's venerable "Stratofortress" Heavy (Strategic) bomber, better known as the BUFF. Performed carpet bombing of Republican Guards Forces and contributed to the initial air strike with an interim conventional version of the SRAM.

**BDA:** Battle Damage Assessment / Bomb Damage Assessment, the process by which the actual damage done to a target is evaluated after an attack, and by which necessity for re-strikes is determined.

**Ba'ath party:** The ruling party in Iraq, socialist in outlook, repressive and despotic in practice. Dominated by Sunni Muslims and the family of Saddam Hussein.

**Battalion:** Three to Five Companies plus associated platoon sized support units.

**Basra:** Major Iraqi port city (and significant Shiite stronghold) on the Shaat al Arab waterway

**Battle Damage Assessment:** The process by which the actual damage done to a target is evaluated and by which necessity for re-strike is determined.

**BATTLE REPORTS:** Menu Item under the **PREFERENCES**

**Beachhead:** The physical objective of an amphibious assault. The point at which fresh troops and supplies will arrive once secured.

**Biological Weapons:** A weapon which deploys a virus, germ, or bacillus which causes disease in humans, or a biological byproduct which is itself a toxin.

**Blitzkrieg:** "Lightning War" from the German offensives of W.W.II, particularly the fall of France, 1940.

**Bomb Damage Assessment:** The process by which the actual damage done to a target is evaluated and by which necessity for re-strikes is determined.

**Bombs:** Explosive devices dropped from aircraft.

**Boundary:** An artificial limit placed on a unit's path of advance to prevent gaps between units and to prevent mutual interference (in the case of lateral boundaries). Boundaries to the rear of the FLOT are used to facilitate command and control functions for line and covering units, and to prevent reserve and support troops from creating traffic jams.

**Bradley (IFV):** The M2 Infantry Fighting Vehicle, armed with a 25mm chain gun, a 7.62mm Machine Gun, and the TOW anti-tank guided missile system. Capable of speeds up to 35mph and of carrying 12 armed infantrymen.

**Brigade:** Three to Five Battalions with assigned company sized support units.

**Bunker:** A hardened structure designed to defend occupants from shelling, bombing, and

C Charlie

C-5: "Galaxy" Transport Aircraft with greatest lift capability in the Western World, second only to the Il-76 in total lift weight.

C-130: "Hercules" 1960's vintage turbo-prop transport. Very rugged and reliable with excellent short/rough runway capability. Variants include a gunship successor to the Vietnam Era "Puff the Magic Dragon," ESM, ELINT, and TACAMO.

C-141: "Starlifter" Transport Aircraft of the U. S. Air Force.

CH-46: "Chinook" (Army) or "Sea Knight" (Navy/Marines), troop and cargo transport helicopter.

CH-53: "Sea Stallion," Navy/Marine Corps heavy transport helicopter.

CAFMS: Computer Aided Flight Management System. Computer system which generates and transmits the ATO.

CAS (Close Air Support): Also known as Air to Mud Warfare. The precision delivery of ordnance from Aircraft in support of troops on the ground and in close proximity to the target. The U. S. Marine Corps' aviators provide the best CAS, followed by the Navy. The Air Force is notably less effective at CAS since it is not High, Fast, Deep, or Stealthy...

Cavalry: Formerly troops mounted on horseback.

Now any (relatively) lightly armed and armored highly self mobile force. Generally used for scouting, to find and fix the enemy in place until heavy units can be brought up.

**Censorship:** The practice of editing or withholding news reports to prevent operationally significant information from being published.

**CENTCOM:** U. S. Central Command (Joint). Headquarters of the Coalition forces and General H. Norman Schwarzkopf.

**Challenger (Tank):** British follow on to the Chieftain main battle tank.

**Chemical Weapons:** A weapon which delivers a chemical agent (such a nerve gas, blister agent, or blood agent) as its means of killing or disabling the enemy. Most Iraqi chemical weapons appear to have been of the blister agent (Mustard Gas) variety. None were used.

**Civil Reserve Air Fleet:** Airliners in service with the commercial air carriers which may be called into federal service in time of declared national emergency. How most of the U. S. troops got to Saudi Arabia. Conversely, almost all of their supplies, munitions, and equipment went by sea.

**Close Air Support (CAS):** Also known as Air to Mud Warfare. The precision delivery of ordnance from Aircraft in support of troops on the ground and in close proximity to the target. The U. S. Marine Corps' aviators provide the best CAS, followed by the Navy. The Air Force is notably less effective at CAS since it is not High, Fast, Deep, or Stealthy...

**CLOSE AIR SUPPORT:** Air Combat function accessed under the **Air/MARINES** Menu Subject, **SHOW AIR SUPPORT** Menu Topic, and displayed in the **SHOW AIR SUPPORT WINDOW**.

**Cluster Bomb:** A bomb casing containing hundreds of sub-munitions (bomblettes) which are scattered when the casing opens at a set altitude.

**Cluster Munitions:** A shell or missile containing clustered sub munitions.

**Company:** Three to Five Platoons. A company sized unit of Artillery is a Battery.

**Company, The:** The nickname for the Central Intelligence Agency.

**Computer Assisted Flight Management System (CAFMS):** Computer system which generates and transmits the ATO.

**Computer Bombing Systems:** A combination of inertial sensors, weapons data, aim point data, and computers which allow extremely accurate attacks with iron (dumb) bombs from aircraft equipped with the system.

**Corps:** Two or more Divisions assigned under a single headquarters.

**COVERING: FORMATION** type.

**Covering Force:** Combat elements (usually highly mobile, such as Armored Cavalry) deployed forward of the main body to provide surveillance and early warning to the main body. The covering force will also harass and impede the progress of the enemy, while stripping out the enemies reconnaissance forces and fixing the enemy in place. The covering force withdraws if the enemy

forces it encounters are vastly superior.

Airborne Warning and Command System entries.

**CURRENT UNIT WINDOW:** Interactive Window which displays the symbol and status indicators of the currently selected unit.

**D**      **Delta**

**DATA BASE REPORT:** Menu Item under the **PREFERENCES** Menu Topic.

**Division:** Three to Five Brigades (Nine Regiments in the U. S. Army system, which used only symbolic Regiments).

**Dragon:** Man portable anti-tank guided missile. Fielded by the United States Marine Corps.

**DEFEND:** **POSTURE** type.

**Defilade:** Arranging troops or fortifications such that the enemy can not fire in enfilade and such that rear and central areas of friendly troops are protected from plunging or reverse fire.

**DELAY:** **POSTURE** type.

**DISMOUNTED ATTACK:** **POSTURE** type.

**DUMP SCREEN TO IFF:** Menu Item under the **PREFERENCES** Menu Subject.

**DISPLAY:** Menu Subject.

**E**      **Echo**

**E-2C:** "Hawkeye" Carrier Based Airborne Early Warning Aircraft.

**E-3:** "Sentry" (AWACS) airframe. See AWACS or

**E-8A:** The JSTARS aircraft.

**EA-6B:** "Prowler" Electronic Warfare Aircraft, based on the A-6 "Intruder" airframe with two additional crew members, built in ESM antennae, and assorted jamming pods. In use with the U. S. Navy and U. S. Marine Corps. Un-official nickname: "Queer." Flew the bulk of SEAD and EW support missions during Desert Storm.

**EC-130:** Electronic Warfare variant of the venerable C-130 Hercules.

**EF-111A:** "Raven" Electronic Warfare Aircraft, based on the F-111 "Aardvark" airframe. The few available Ravens worked overtime, as did the Wild Weasel versions of the venerable F-4 Phantom II. There were not enough of either plane to go around.

**Edit:** Menu Subject.

**EDIT ALLIED EQUIPMENT:** Menu Item under the **Edit** Menu Subject.

**EDIT ALLIED ORG CHART:** Menu Item under the **Edit** Menu Subject.

**EDIT ALLIED UNITS:** Menu Item under the **Edit** Menu Subject.

**EDIT COMPANY TYPES:** Menu Item under the **Edit** Menu Subject.

**EDIT IRAQI EQUIPMENT:** Menu Item under the **Edit** Menu Subject.

**EDIT IRAQI ORG CHART:** Menu Item under the **Edit** Menu Subject.

**EDIT IRAQI UNITS:** Menu Item under the **EDIT** Menu Subject.

**Electronic Countermeasures (ECM):** Efforts taken to deny use of the Electromagnetic Spectrum to the enemy. May be active (Jamming) or passive (Chaff, Decoys [such as the TALDJ]).

**Electronic Support Measures (ESM):** Gathering intelligence on the enemy by his use of the Electromagnetic spectrum.

**Electronic Warfare:** Efforts expended to ensure friendly use of the Electromagnetic spectrum (ECCM), frustrate enemy use of the Electromagnetic spectrum (ECM), and to collect intelligence concerning the enemy from his use of the Electromagnetic spectrum (ESM).

**Embarcation:** The act of loading troops and supplies into ships or aircraft to prepare for planned combat operations in a new location.

**ENEMY EQUIPMENT DESTROYED:** Toggle Switch (alternates with the **PERSONNEL AND EQUIPMENT WINDOW**) under the **CURRENT UNIT WINDOW** area of the control panel.

**Enfilade:** Fire directed along the long axis of the enemies formation.

**Exocet (Missile):** The French built Anti-Ship Cruise Missile. One was fired at the USS Missouri without effect.

**F**      **Foxtrot**

**F-4:** "Phantom II" the F-4G version was used in the Gulf War as a Wild Weasel (SAM suppression) platform. See also RF-4.

**F-15:** "Eagle" Two major variants in the Gulf War, the F-15C Air Superiority Fighter, and the F-15E "Strike Eagle" attack aircraft.

**F-16:** "Fighting Falcon" A small, highly maneuverable Swing Fighter (aircraft capable of both Air to Air and Air to Ground missions).

**F-111:** "Aardvark" fighter bomber. Originally intended as a joint design platform for both the Navy and the Air Force, it was rejected by the Navy due to unsuitability for arrested landings on aircraft carriers. Since highly modified by the Air Force and used in the Deep Strike (low level) role.

**F-117:** "Night Hawk," better known as the Stealth Fighter (though it is actually a light attack aircraft, not a fighter). The scourge of late night downtown Baghdad.

**F/A-18:** "Hornet" Swing Fighter (Dual Role, fighter / attack aircraft) in use with the U. S. Navy, U. S. Marine Corps, and Canadian Forces.

**FAC (Forward Air Control(er)):** An observer in an aircraft over or near enemy lines directing other aircraft in their attack runs.

**Fast FAC:** As per FAC, but in a fast moving jet as opposed to a lower and slower aircraft with more on station time.

**FATIGUE:** One of the factors reported in the **UNIT STATUS INDICATORS** section of the Control Panel.

**FILES:** Menu Subject.

**FIX ZOOM BUTTON:** A special button appearing in all three **MAP MODES** which (when invoked) allows the commander to change the current unit without a concurrent change in the level of magnification used in the maps.

**Flank:** The sides of a unit relative to its front facing (the area from which it expects to attack or be attacked from is the front).

**FLIR:** Forward Looking Infra Red, A night / poor visibility conditions vision enhancer usually found on night / all weather attack aircraft.

**Forward Air Control (FAC):** An observer in an aircraft over or near enemy lines directing other aircraft in their attack runs.

**Forward Looking Infrared (FLIR):** A night / poor visibility conditions vision enhancer usually found on night / all weather attack aircraft.

**Front:** The direction in which a unit is facing, or the direction in which the unit's commander is focusing his attention.

**G      Golf**

**GCI (Ground Controlled Intercept:** Using ground based Radar and intercept controllers (usually with computer assistance) to calculate the geometry for Aerial intercepts and pass orders to the pilots above.

**Global Positioning System (GPS):** The NAVSTAR Satellites and a simple man portable receiver allow positions to be fixed to within 3 meters.

**GPS:** Global Positioning System, the combination of NAVSTAR Satellites and a simple man

(or vehicle) portable receiver which allows position to be fixed to within 3 meters.

**H      Hotel**

**HARM:** High speed Anti-Radiation Missile, weapon of choice for suppression of Radar sites, SAM batteries, and radar guided Flak positions.

**Hawk:** USMC Medium Altitude Air Defense missile system.

**Hellfire:** Hyper-velocity anti-tank guided missile fired by the Apache (AH-64) attack helicopter.

**I      India**

**IFF:** Identification, Friend or Foe, transponder based system which will positively identify friendly air and naval units.

**Identification, Friend or Foe (IFF):** Transponder based system which will positively identify friendly air and naval units.

**Indian Ocean:** The body of water bounded by the East Coast of Africa (to the west), the Arabian Sea (to the north), the Indian Subcontinent (to the East) and the Antarctic Ocean (to the south).

**Insertion:** The placement of troops and equipment into an operational area via air assault operations.

**Intelligence:** That which is known, or believed to be known, about the enemies order of battle,

location, and current intentions.

**Interdiction:** The act of interrupting enemy movements, re-supply, and communications behind the enemies FLOT.

**Iran:** One of the belligerents in the Iran/Iraq war of 1980-1988. Now a fundamentalists Islamic State of the Shia sect. Formerly known as Persia.

**Iran-Iraq War:** (ca 1980-1988) A stupid and brutal war of attrition initiated by the Iraqi's as a land grab. The war was fought in the marshes and mountains of the border between the two nations, and resulted in a draw. The conflict also spread to the waters of the Arabian Gulf as both belligerents attempted to shut down the other sides oil exports (known as the "tanker War").

**Iraqi Integrated Air Defense System:** The Iraqi's opted for a Integrated Air Defense system in the Soviet mold with an ad hoc mixture of Soviet and Western systems. The weak link was in Command and Control facilities, which were intentionally built above ground to mitigate the possibilities of coups.

**Iraqi Air Force:** Another no show for Desert Storm, those units not destroyed in their hardened shelters fled to Iran, where they have since become part of the Iranian Air Force.

**Iraqi Navy:** The "New Iraqi Navy" will be glass bottomed so that they can see the old Iraqi Navy...

**Israel:** The Wild Card in the Coalition's war against Iraq. A combination of diplomatic maneuvers and a lack of IFF codes kept the Israelis out of the fray.

**J**      **Juliet**

**JCS:** U. S. Joint Chiefs of Staff.

**JSTARS:** Joint Services Tactical Airborne Radar System, designed to detect and track enemy ground traffic over a theater of operations.

**Joint Services Tactical Airborne Radar System:** (JSTARS) Surveillance system designed to detect and track enemy ground traffic over a theater of operations.

**Joint Task Force Middle East: (JTFME)** Commander for Naval forces in the Arabian Gulf.

**K**      **Kilo**

**KA-6D:** Tanker variant of the A-6 "Intruder"

**KC-10:** U. S. Air Force Tactical Aerial Tanker.

**KC-35:** U. S. Air Force Tactical Aerial Tanker.

**Klick:** Kilometer

**KTO:** Kuwaiti Theater of Operations

**Kurds:** One of the three primary ethnic groups in Iraq, long abused by the Sunni Muslims (both before and after the ascendancy of the Ba'ath Party).

**Kuwait:** A small oil rich Emirate on the Northern end of the Arabian Gulf, sandwiched between Iraq and Saudi Arabia. Established by a fiat of the British Colonial Government as Britain left the region. Now the wealthiest (per capita) of the oil rich Arab nations.

**Kuwait Bay:** Large enclosed bay on the shore of

which stand Kuwait City.

Kuwait City: Capital city of Kuwait.

L      Lima

Laser Guided Bomb: An otherwise conventional bomb with a laser guidance unit affixed to the nose which will guide the bomb quite accurately to a laser designation "spot."

LASH: Lighter Aboard Ship, one of the ship types optimized for fast sea lift and used during the Desert Shield build up.

Lift: The transport helicopters assigned to a specific mission or operation requiring the transport of troops and equipment.

Lighter Aboard Ship (LASH): one of the ship types optimized for fast sea lift and used during the Desert Shield build up.

LINE: **FORMATION** type.

Linkup: The meeting of friendly troops, usually between an air or amphibious assault element and the relieving troops.

Logistics: The art by which military units are fed, fueled, watered, and supplied. The logistics effort put forth by the United States in Desert Storm was without precedent.

M      Mike

M1: "Abrams" main battle tank.

M1A1: Improved "Abrams" main battle tank.

M60: Either a medium machine gun (7.62mm) or the

Main Battle Tank that preceded the M1 in the U. S. inventory as an evolutionary outgrowth of the M48.

M60A3: Final upgrade to the M60 main battle tank, fitted with a new fire control system and appliqué re-active armor. In use with the U. S. Marine Corps (versions without re-active armor in use with Saudi Arabia and Kuwait).

M113: Armored personnel carrier of U. S. design, in use with various third world nations.

MARAD: U. S. Maritime Administration. The people responsible for getting U. S. equipment, supplies, and munitions to Saudi Arabia.

**MAP:** Interactive Window Mode.

**MAP:** Menu Subject.

Maritime Administration: (MARAD) The people responsible for getting U. S. equipment, supplies, and munitions to Saudi Arabia.

Maritime Prepositioning Ships: Fast Roll On/Roll Off (RoRo) vessels pre-loaded with the combat equipment and supplies required by U. S. Marine Expeditionary Forces and Army Fast Reaction forces and forward deployed to hot spots.

Marine Expeditionary Brigade (MEB): A re-inforced brigade of U. S. Marines specializing in amphibious assault and unconventional warfare.

Marine Expeditionary Force (MEF): A re-inforced regiment (up to division size) of U. S. Marines specializing in amphibious assault and unconventional warfare.



Marine Expeditionary Unit (MEU): A re-inforced battalion of U. S. Marines specializing in amphibious assault and unconventional warfare.

Maverick: TV or IR guided air to ground missile.

MEB: Marine Expeditionary Brigade, a re-inforced brigade of U. S. Marines specializing in amphibious assault and unconventional warfare.

MEF: Marine Expeditionary Force, A re-inforced regiment (up to division size) of U. S. Marines specializing in amphibious assault and unconventional warfare.

MEU: Marine Expeditionary Unit, a re-inforced battalion of U. S. Marines specializing in amphibious assault and unconventional warfare.

MORALE: Unit Status.

MOUNTED ATTACK: **POSTURE.**

MPS (Marine Prepositioning Ships):Fast Roll On/ Roll Off (RoRo) vessels pre-loaded with the combat equipment and supplies required by U. S. Marine Expeditionary Forces and Army Fast Reaction forces and forward deployed to hot spots.

Multiple Employment: Aviation units have the capability to accomplish more than one mission during a single operation phase due to their mobility. Thus an aviation unit which could not lift a battalion sized unit in a single lift may still transport the whole battalion in an expeditious manner.

Mustard Gas: Chemical Warfare Blister Agent. First major use was in the trenches of the Western

Front in W.W.I. Since outlawed. Used by Iraq during the Iran-Iraq war and against rebellious Kurds in the north.

N November

Naval Gunfire Support: Artillery support from the sea. A naval 5" 54 cal shell (127mm) is larger, heavier, and goes further than a land based 155mm Howitzer shell, and naval units have far more rounds on hand than the average artillery battery. The 16" guns of the U. S. *IOWA* class battleships were the longest ranged guns in the KTO and had the heaviest throw weight by far.

Nerve Gas: Chemical Warfare agent which interferes with neuro transmitters. Usually deadly within minutes of contact.

NGFS: Naval Gunfire Support, Artillery support from the sea. A naval 5" 54 cal shell (127mm) is larger, heavier, and goes further than a land based 155mm Howitzer shell, and naval units have far more rounds on hand than the average artillery battery. The 16" guns of the U. S. *IOWA* class battleships were the longest ranged guns in the KTO and had the heaviest throw weight by far.

Night Vision Devices: Light Amplification, Passive, or active IR systems which allow troops and pilots to see at night.

Nineteenth Province: Old maps (dating from the era of Persian control of the region) show Kuwait as the 19th province. Saddam Hussein seized on this in his propaganda efforts to justify his aggression against Kuwait.

O Oscar

OV-10: Twin prop (pusher/puller) aircraft used for FAC missions.

Objective: That which you mean to obtain or achieve.

OPTIONS: Menu Item.

ORG: Interactive Window Mode.

P Papa

Passage of Command: The exchange of responsibility for combat operations within a zone by two units.

Passage of Lines: The action by which an assault or forward defense is conducted without pause. A fresh unit passes through the lines of the unit currently on line. A covering force may also withdraw by passing through friendly lines towards the rear.

Phase Line: A line or goal set along a units path of advance to help control and coordinate land operations. Helps prevent the formation of salients which the nemy could exploit.

Patriot (missile): U. S. Army Theater Air Defense missile system with a demonstrated ABM capability. One of the reasons the Israelis stayed out of the fray.

PAUSE: Menu Item under the FILES Menu Subject (shortcut key (<spacebar>)).

PAUSE AT END OF TURN: Menu Item under the OPTIONS Menu Subject.

PAUSE AT END OF MOVEMENT: Menu Item under the OPTIONS Menu Subject.

PAUSE AT OF RECON: Menu Item under the OPTIONS Menu Subject.

PAUSE AT END OF BATTLE: Menu Item under the OPTIONS Menu Subject.

POW(s): Prisoners of War. Coalition forces captured tens of thousands of Iraqi soldiers as units surrendered en masse.

PREFERENCES: Menu Subject, includes the menu items...

PREVIEW: **MAP** MODE.

Prisoners of War: Coalition forces captured tens of thousands of Iraqi soldiers as units surrendered en masse.

PROBE: **POSTURE** type.

Q Quebec

QUIT: Menu Item under the FILES Menu Subject (shortcut key (**Q**)).

R Romeo

RC-135: Reconnaissance (Recce) version of the venerable C-130 "Hercules."

RF-4: Reconnaissance (Recce) version of the F-4 "Phantom II" fighter. Note: all the RF-4's in theater were from Air National Guard Units. Once again, tactical reconnaissance is not High, Fast, Deep, or Stealthy..

ROE: Rules of Engagement, who you may and may

not shoot at and under what circumstances...

RPG-7: Soviet designed light anti-armor rocket fired from a shoulder launcher.

Rear guard: The security element operating to the rear of moving force to prevent nasty surprises from overtaking the main body. Altruists to the Covering Force.

Reconnaissance: The means by which the enemies location is determined.

RECONNAISSANCE PHASE: See page

Reconnaissance Satellites: Eye in the Sky. Note that satellites may be blinded by clouds and smoke, and that they appear over the horizon at regular and predictable intervals.

Republican Guard(s): Politically reliable elite troops used to prop up the Ba'ath party. Emphasis is on political reliability and compliance with orders...

RESERVE: **FORMATION** type.

RESTORE: Menu Item under the **FILES** Menu Subject (shortcut key **(R)**).

RETREAT: **POSTURE** type.

Revolutionary Command Council: Inner ruling elite of the Ba'ath party.

Rules of Engagement (ROE): who you may and may not shoot at and under what circumstances you may do so...

S        Sierra

SR-71: "Blackbird," U. S. Air Force Strategic Reconnaissance aircraft retired from service in 1989.

SEAD: Suppression of Enemy Air Defenses, the process by which the enemies air defenses are destroyed or suppressed so that friendly aircraft may fly at will over enemy territory.

Salient: An outwardly projecting part of a fortification, trench system, or battle line.

SAVE: Menu Item under the **FILES** Menu Subject (shortcut key **(S)**).

Scud (missile): The Soviet designed battlefield ballistic missile from which the Iraqis adapted their own weapons of terror.

Shore Bombardment: See NGFS.

SHOW AIR SUPPORT: Menu Item (toggle switch with SHOW CURRENT UNIT) under the **AIR/MARINES** Menu Subject.

SHOW CURRENT UNIT: Menu Item (toggle switch with SHOW AIR SUPPORT) under the **AIR/MARINES** Menu Subject.

SINGLE: **MAP** MODE.

SPLIT: **MAP** MODE.

Squadron: A group of six to twelve aircraft or a company sized unit of Cavalry.

START: Menu Item (toggle switch with STOP) under the **FILES** Menu Subject.

STOP: Menu Item (toggle switch with START) under the **FILES** Menu Subject.

STRENGTH: **UNIT STATUS**.

**SUPPLY: UNIT STATUS.**

**SUPPORT: FORMATION type.**

**Suppression of Enemy Air Defenses:** The process by which the enemy's air defenses are destroyed or suppressed so that friendly aircraft may fly at will over enemy territory.

**SURRENDER: POSTURE.**

**T**      **Tango**

**T-55:** Soviet Designed (and manufactured, though some were produced elsewhere under license) Main Battle Tank ca. 1955.

**T-62:** Soviet Designed (and manufactured, though some were produced elsewhere under license) Main Battle Tank ca. 1962.

**T-72:** Soviet Designed (and manufactured, though some were produced elsewhere under license) Main Battle Tank ca. 1972.

**TALD:** Tactical Air Launched Decoy, a glider unit carried on a hard point of an aircraft, which, when released, mimics the radar cross section and transmissions of a specific aircraft type.

**TOW:** Tube launched Optically tracked Wire guided anti-tank missile. U.S. Design in use with many nations.

**Tactical Air Launched Decoy:** A glider unit carried on a hard point of an aircraft, which, when released, mimics the radar cross section and transmissions of a specific aircraft type.

**Tactical Airborne Reconnaissance Pod System**

(TARPS): A pod reconnaissance system carried on the centerline of the F-14 "Tomcat" for tactical reconnaissance missions. Frequently used during Desert Storm since Tactical Reconnaissance was not High, Fast, Deep, or Stealthy and thus not a high priority for the U. S. Air Force.

**Tactical Exploitation of National Capabilities:** Providing real time or near real time satellite imagery to theater mission planners.

**TARPS:** Tactical Airborne Reconnaissance Pod System, A pod reconnaissance system carried on the centerline of the F-14 "Tomcat" for tactical reconnaissance missions. Frequently used during Desert Storm since Tactical Reconnaissance was not High, Fast, Deep, or Stealthy and thus not a high priority for the U. S. Air Force.

**TIME COMPRESSION:** Menu Item under the **PREFERENCES** Menu Subject.

**Tomahawk (missile):** The latest way of inflicting harm on the enemy from the sea. Tomahawk goes where pilots dare not fly...

**TRAVEL: POSTURE.**

**U**      **Uniform**

**UNIT STATUS:** A window that provides the information on the current levels (and rate of change) of the selected unit's **SUPPLY**, **MORALE**, **FATIGUE**, and **STRENGTH**.

**UNIT SYMBOLS:** Menu Item under the **PREFERENCES** Menu Subject (shortcut key (Y)).

**V**      **Victor**

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W      Whiskey

WWMCCS: World Wide Military Command and  
Control System.

Walleye (glide bomb):

World Wide Military Command and Control System  
(WWMCCS):

X      X-Ray

Y      Yankee

Z      Zulu

Zone of Action: A subdivision of a larger geographical area which is assigned for the exclusive use of a combat unit.

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# **PATRIOT:**

**MODERN LAND WARFARE  
SIMULATION**

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**FIELD MANUAL**

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PATRIOT is unlike any wargame, computer or manual, that you have ever played. Most computer wargames evolved from manual board wargames, and early versions showed that heritage clearly and to great disadvantage. Conventions which were necessary in manual two-player games, such as a constant ground scale grid, the manual movement of individual units through that grid to a destination grid cell, were repeated, even though they were not necessary once the computer provided both an opponent and a referee.

With PATRIOT we set out to begin essentially from scratch, and designed a wargame for computer as if there had never been manual board wargames. From the very start we rejected the traditional abstractions of boardgames and concentrated on the mechanisms by which a commander influences the actions of his subordinate units. A commander does not individually move units through hex grid, and the space which units occupy is not rigidly determined by an arbitrary grid scale. Instead, a commander interacts with units in the following areas:

- Role. The commander decides whether each subordinate unit will operate forward of the FEBA as a covering force, on the FEBA as a line unit, or behind the FEBA as a reserve unit.
- Boundaries. A commander sets the boundary lines between his subordinate units, and the subordinate units then operate within the section of front allocated to them.
- Objectives. A commander sets objectives for his subordinate units, which then operate toward those objectives.
- Mission Posture. The commander decides whether units will act offensively or defensively, and in either case what degree of aggressiveness or caution they will display.
- Priority of Support. The relative importance of a subordinate unit's mission will dictate where that unit stands in the priority list for logistics, artillery, air support, and command attention, all of which are represented by priority of support.

If a player can control these variables in a unit, then the player has much the same sort of control as an actual commander exercises, at least in a technical sense. The very important personal aspects of leadership are not covered by the game, just as they are ignored by most wargames, computer or otherwise. To do so would require a dramatically different



approach, more along the lines of a roleplaying game than a technical operational simulation, and while that may prove to be a very entertaining exercise in its own right, it is beyond the scope and goal of this game.

What this game is, we believe, is an innovative and instructive look at the means by which commanders control units and fight battles.

## **Solitaire or Two-Player ?**

The reaction from gamers when the idea for a Gulf War game was first suggested was, "Sure, sounds like fun, but who's going to play the Iraqis?" Who indeed? The advantages of a computer game here are obvious, and the solitaire aspect of the game actually solved many other sticky design problems. The historic campaign was characterized by very good theater intelligence on the Coalition side, and wretched intel on the Iraqi side. The Iraqis were fighting blind, and had little choice but to execute pre-battle operational plans, regardless of the situation. How to impose that on a two player game? Well, it can be done, but it takes a lot of pretty ugly rules that makes it even less fun to play the Iraqi side.

Making the game a solitaire exercise, however, was an easy way of showing the programmed nature of the Iraqi response and its lack of flexibility. The coalition player knows, to an extent, what the Iraqis are likely to do once the balloon goes up, and can use that information to pry their Corps apart and hammer them to pieces. Well, that's pretty much what happened. As a result, while playing the Iraqi side can be challenging and fun (if you are not easily depressed by huge losses), it will not produce results as reliable as when a human player plays the coalition against the computer.

## **Research**

When I began work on this project, I thought that I knew a lot about the Gulf War. But Dave Nilson, my research assistant on the project, was absolutely relentless in tracking down information. Not only did he pester editors until we had photocopies of historical articles and documents pouring in, he tracked down unit commanders and plied them with specific questions about task organization and logistical support which just weren't covered in the published material. In the process, he helped put together the best researched game I've ever worked on.

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A large amount of material is now available on the Iraqi order of battle, but no two sources agree completely on the location and identification of specific divisions. I believe that what we show in the game is the best synthesis of the existing sources. One example in particular, that of the Iraqi 48th Infantry Division, comes to mind. Most sources (including official US Army sources) place this division with the Iraqi VII Corps along the Saudi Border near the Wadi al Battan. The 24th Infantry Division (Mechanized), however, insists that it encountered the division in strength near Jalibah Air Base and defeated it. The tendency of the Iraqis to switch brigades around, the small sector allocated to the 48th Division in the VII Corps area, and the weak resistance put up by the division at Jalibah led us to conclude that the division was split up, with part of it forward, probably with the divisional artillery, and the balance further back guarding the air field.

Most brigade IDs are unavailable for the Iraqis, but where available we have listed them. Where they are unknown we have retained the Army's convention of lettering them A, B, and C. US and UK unit identifications were fairly easy to find (although US aviation units are harder to track down than most). What was more difficult to establish were variations in equipment, departures from published TO&Es, and task force organization. However, I believe that we have been about 95% successful in tracking that information down.

So welcome to PATRIOT, and enjoy what we hope is a new standard in wargaming, both in terms gaming system, historical accuracy, and enjoyment.

Frank Chadwick  
Bloomington, IL  
06 November 1992