

# COMBINED ARMS AND THE EVOLUTION OF WAR

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We cannot allow casualty aversion to rule military tactics and erase decades of military evidence illustrating the effectiveness of the combined arms (CA) methodology. In the RAND Corporation report “Russia’s Chechen Wars 1994–2000: Lessons from Urban Combat,” author Olga Olikier stated, “The guiding concept seemed to be that firepower could limit the exposure of soldiers to close combat and thus save military lives, albeit at the cost of infrastructure and noncombatants.”

Unlike the Russians in Chechnya, Americans in Iraq and Afghanistan are balancing organizational and tactical skill with firepower, illustrating an evolution in the CA methodology.

CA operations at battalion/company level and above employ infantry, tanks, artillery and aircraft in combination, using each arm’s strengths to engage the enemy while protecting each others’ weaknesses from enemy action. Similarly, at company/platoon level and below, combined weapon (CW) methodology—a varied weapons mix of automatic weapons, rifles, pistols, grenade launchers, hand grenades, shoulder-fired rockets and missiles, demolition charges, and man and vehicle portable crew served weapon systems—affords the infantry platoon, squad, or team the ability to engage and defeat a wider variety of targets and accomplish more missions than if they were armed with standard small arms alone.

The evolution of CA began in late WWI, was fully developed in WWII by the Germans and was further refined during the 1973 Arab-Israeli War, the 1982 Israeli invasion of Lebanon, the Afghan Wars, and in Chechnya. These post-WWII conflicts illustrate the CA evolution, including the CW concept as infantry forces are greatly empowered by advances in small arm technology and battle group organization. The essence of CA methodology is indisputable in combat; however, some types of conflicts require more of one arm over others, dictated by terrain and conflict intensity. The uniqueness of the infantry embracing the CA evolution of CW becomes the essential ingredient in our current period of guerrilla warfare.

## World War I

The overwhelming firepower of the machine gun forced stalemate on the Western Front during WWI. The Allies possessing superior material and industrial capacity sought a technological solution, and the Germans suffering from deficiencies of these assets

turned to tactical innovation. The Germans solved the problems of moving across “no-man’s” land and breaching the enemy’s trench system through the application of organizational, small arms, and tactical movement innovations that set the foundation of modern CA warfare.

First, hand grenades and flamethrowers were used to attack and breach the enemy trenches by “rolling-them up,” a technique where German infantrymen would attack at one end of the trench and systematically work their way up to the other end or next trench in the system. Other infantry weapons such as the light machine gun, developed later through detailed tactical testing and evaluation, would also prove very effective in this capacity.

Second, crossing “no-man’s” land under heavy machine gun and artillery fire was accomplished by using smaller formations, innovative movement techniques and suppressive fire from organic weapons. Infantry formations began to break up into platoons and squads moving independently utilizing available cover and concealment. Infiltration techniques were developed to protect advancing infantry through stealth.

Finally, the Germans recognized that accurate and timely supporting fire was more effective than volume or duration of fire, according to Bruce I. Gudmundsson in his book *Stormtroop Tactics: Innovation in the German Army, 1914–18*. Supporting arms such



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*German machine gunners in a trench prepare to fire. Through numerous organizational and tactical innovations, the Germans set the foundation of modern CA warfare.*

as machine guns, artillery and mortars were an integral part of the infantry formation and made lighter and more manageable so the infantry could move and employ them without the help of animals or machines. This combination made supporting fire from a variety of weapons available and more responsive to the unit's support requirements.

Weapons development was based on tactical innovations, and Gudmundsson noted that the personal equipment of the men was modified to meet the requirements of their new methods of fighting. Assault detachments of Stormtroops, whose composition was made up of variously armed units, employed these new tactics. "Instead of being composed entirely of riflemen, [the platoon] was now composed of three types of squads — light machine gun squad, rifle squad and storm troop," Gudmundsson wrote. Infantry platoons were conducting fire and maneuver at squad level and in some instances within the squad.

Late in WWI aircraft also served in a limited ground attack role. Len Deighton pointed out in his book *Blitzkrieg: From the Rise of Hitler to the Fall of Dunkirk* that the Germans produced the first "battle groups" integrating "mixed teams working in very close cooperation" when they combined light artillery and aircraft during WWI battles.

The organizational modifications allowing independent movement of smaller units, the formation of assault detachments armed with a variety of new weapons, and new movement techniques began a tactical revolution creating the CA methodology.

### World War II

In the time between the wars, the Germans and Allies studied their experiences during WWI, and CA began to gain wider acceptance in the armies of the major powers. In the book *A Genius for War: The German Army and the General Staff*, author Trevor N. Dupuy stated that CA was the central tactical principle of the Reichswehr. General Heinz Guderian studied the tank's performance in WWI and knew that no one arm could achieve every battlefield mission. "In this requirement the tanks differ in no respect from the other arms, and inter-arm cooperation is therefore a matter of fundamental importance," Guderian wrote in

his book *Achtung-Panzer! The Development of Tank Warfare*. Institutionalizing the CA methodology through the creation of the panzer division, he also insured the complete mechanization of all arms enabling speed, surprise, and mass in the offense.

"The Germans maneuvered and fought so that all arms — guns, tanks, and motorized infantry — could render each other effective support," Dupuy wrote. Additionally, newly created anti-aircraft and reconnaissance elements became organic to the panzer division. Dupuy also pointed out, "The panzer division was effective precisely because it was a combined arms force that used all of its weapons, not just tanks with maximum effectiveness."

The peacetime panzer division evolved as the demands of war required the further evolution of organizational structure. Dupuy and Gudmundsson both noted the application of CA battle groups or detachments in combat as the preferred task-organized formation whose size and composition was mission dependent. The Germans integrated aircraft into the CA team including air force liaison personnel with units involved at the offensive's main effort. "Aircraft worked to telling effect as long ago as 1918, and the attacker can hardly dispense with their cooperation nowadays," Guderian wrote. The Germans created modern CA methodology institutionalizing many of its elements through formal organizational changes also creating the necessary training and command and control atmosphere to make it work.

WWII saw incredible innovations in tactics, ordnance, and weapons. These innovations became the catalyst for the evolution in CA methodology that began with the WWI Stormtroops. Toward the end of WWII the infantry gained a variety of powerful weapons that could be employed by a single Soldier or two-man teams, greatly expanding their operational capabilities.

Guderian, Deighton and Frank Kurowski (author of *Infantry Aces*) all pointed toward the primacy of the infantry in defending and holding ground on the battlefield. Guderian stated that "it was clear that armored attacks could gain lasting success only when they were followed up without delay by the infantry."

Deighton pointed to a successful local

French counterattack during the defense at Sedan to illustrate the same point. "Just as the French tanks at Wastia had withdrawn rather than remain after dark without infantry support, so did the French pillboxes at Sedan require the 'interval troops' to protect them. Winkling action at close range by infantry with explosives, hand grenades and flamethrowers can knock out even the strongest emplacement," he wrote.

The assault on the Belgian fort of Eben Emael is an excellent example of the vulnerability of fixed emplacements to a CW infantry force. German airborne troops protected themselves from fire through skillful movement and surprise to place the casement-busting shaped charges — a task that would have been prevented had the assigned Belgian supporting infantry been in position. Additionally, Guderian noted that infantry are "perfectly capable of holding a great variety of locations against armored attack, conversely unsupported armor cannot always be guaranteed to wipe out defending infantry."

In *Infantry Aces*, Kurowski supported this argument illustrating the ability of Panzerfaust armed infantry units bringing "massed armored attacks to a halt by themselves." Olicker collaborating the devastating effect of infantry against unsupported armor, stated "loyalist Chechen tank formations were surrounded and destroyed by RPG-armed rebels." Weapon developments enabled the evolution in CA methodology into CW, what Mike Vickers called a weapons mix in *Charlie Wilson's War*, adding another dimension to modern warfare.

### Post World War II

During WWII the development of the CA/CW methodology proved itself in battle and would continue to be valid throughout the wars of the 20th century and into the 21st. The Israelis stumbled over the hard learned lessons of WWI and WWII during the 1973 war. In the opening phases of the war, Egyptian and Syrian forces attacked through the Sinai and Golan Heights. Egyptian infantry was well armed with RPGs and Sagger anti-tank missiles exposing the "errors in Israeli tactics [who] committed large tank formations to battle without artillery, infantry or air support," according to Peter Allen in his book *The Yom Kippur*

*War: The Politics, Tactics, and Individual Actions By Which Israel Repelled the Arab Invasions of 1973.* Allen described how after the spectacular success of Israeli armored units in 1967 the tank concept so dominated Israeli thinking that supporting arms became an afterthought. Egyptian infantry anti-tank weapons were able to take on Israeli armored forces committed to battle alone and stop them in repeated engagements.

It was only after the Israelis integrated CA formations into the battle that they recovered from earlier setbacks. Allen stated, "Infantry mounted in M-113 armored personnel carriers and integrated self propelled artillery working in close cooperation with the tanks offered the best counter to the otherwise lethal Egyptian Sagger tank-killer teams. Similarly, machine guns and mortars mounted in the M-113s gave the essential close support against Egyptian infantry when they left their own BRDM carriers."

One lesson the Israelis did not forget, however, was that the ability to attack the Arab armored columns from the air was critical to repelling the invasion. Allen stated, "Britain's painful experience [in WWII] of what could happen to armor in the desert when air supremacy was lost was well known to Israel's commanders." When Israeli aircraft were committed to battle, they were met by strong CA/CW Arab forces. The Egyptians incorporated SA-6 and man portable SA-7 anti-aircraft missiles into their formations. "Both these weapons suddenly provided mobile cover for the vulnerable armored formations," wrote Allen.

The Israelis met a similar fate along the Golan Heights. "As the vaunted Israeli Air Force roared in to destroy the Syrian armor ... it encountered the Syrian SAMs with disastrous results," according to Allen. High aircraft losses and the diminished ability of the Israeli Air Force to provide effective ground support gave renewed importance to skilled ground maneuver and tactics in destroying the Arab anti-aircraft defenses.

The Israelis again denied their forces proper infantry support during the 1982 invasion of Lebanon. "One of the major difficulties that the IDF encountered in Lebanon was a chronic shortage of infantry to support the other combined arms," wrote Richard A. Gabriel in his book *Operation Peace for Galilee: The Israeli-PLO War in*

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*Lebanon.* Deploying light infantry teams the Israelis were able to turn the Syrian tank-hunter teams into the hunted. Well armed with a diversity of weapons, the infantry was indispensable for anti-tank warfare, both for attacking and defending, and was the only arm that could guarantee the decisive defeat of enemy infantry.

During the 1994 and 1999 street fighting for Grozny in Chechnya, the Chechen forces incorporated task organized CA/CW battle groups. Olikier stated that Chechen rebels were well armed with a variety of weapons making them a formidable force.

"In addition to small arms, the rebel arsenal included truck-mounted multibarrel Grad rocket launchers, a handful of T-72 and T-62 tanks, BTR-70s, some self propelled assault guns, as well as anti-tank cannons, and some number of portable SA-7 and SA-14 anti-aircraft missiles," wrote Olikier.

They incorporated these weapons into variably armed teams of about three to five men of which multiple teams formed cells and larger units including support personnel such as medics, more snipers, mortar crews, etc. The CA/CW methodology enabled the Chechen rebels to inflict stunning defeats upon Russian forces in many engagements. The Russians recovered from their initial setbacks and were finally reminded of their hard learned lessons in Stalingrad.

Olikier also wrote, "They began to task organize forces into small mobile assault groups, made better use of snipers and heavy artillery, and made sure that units talked to each other and to air assets, so that mutual support was possible."

The typical Soviet-era mechanized units of tanks and APC-borne infantry were augmented with mortars, flamethrowers, anti-aircraft machine guns and other infantry-portable weapons carried by sappers to drive Chechen fighters from Grozny.

Dr. Stephen Biddle presented an analysis of the fighting in Afghanistan in his book *Afghanistan and the Future of Warfare: Implications for Army and Defense Policy.*

In the book he illustrated the essential and continued need to apply CA/CW methods and pointed out the dangers of the infantry losing its core capabilities. "The key to success in Afghanistan, as in traditional joint warfare, was the close interaction of fire and maneuver, neither of which was sufficient alone," Biddle wrote. He also discussed how American overreliance on firepower and standoff fire attacks were insufficient to completely destroy enemy Soldiers and that they were still capable of resisting ground assaults. It was not until these fire attacks were used in coordination with skilled infantry maneuvering to seize enemy positions that supporting arms proved decisive.

### **Uniqueness of Terrain and Infantry**

Certain types of conflicts and specific terrain dictate that specific arms should be more predominate than others in the CA/CW task force. For example, conflicts on open terrain or high intensity state-versus-state wars will favor armor, artillery, and aircraft with mechanized infantry. More restricted terrain and lower intensity conflicts such as those involving urban areas and mountains will favor infantry.

In his book Gabriel wrote that "Perhaps a basic lesson of this war is simply that tanks and APCs deployed together in mountain terrain without a forward infantry screen simply do not work very well." Whereas highly restricted terrain such as jungle and alpine areas or insurgencies and other conflicts favor light infantry and paramilitary operations, counterinsurgency operations are mainly a light infantry battle.

The foundation of CW methodology is the ability of the infantry to operate as a combined weapons force — employing machine guns, shoulder-fired rockets and missiles, grenade launchers and explosive charges — as the panzer division operated as a combined arms force. Organizing for and employing CA/CW methodology to the lowest levels of platoons and squads allowed considerable battlefield flexibility in the creation of mission-specific battle groups. It also greatly facilitated maneuver as all formations large and small could gain positional advantage on the enemy through maneuver employing their mixed arms and affording each arm or weapon its maximum effectiveness. The infantry's ability to close

with elusive teams of enemy infantry is its strongest asset. It has been said that the best anti-tank weapon is another tank. The same is true for infantry forces, especially when the opponent is small teams of enemy infantry operating among civilians and other friendly forces armed with modern weapons.

The CA methodology is as relevant today as it was in WWII and 1973, and recognizing its evolution to include the CW methodology is the key to success today.

### Combined Weapons

Traditional Western tactics call for indirect fire to suppress an enemy before assaulting or maneuvering. Since the Boer War and WWI, growing fire power has continuously dispersed combat formations into the modern small group battles of Afghanistan and Iraq. While useful in suppressing an enemy, indirect fire and air strikes have had little effect in actually forcing an enemy to surrender or give up the ground he holds.

Biddle wrote that "In Operation Anaconda, well-prepared al Qaeda positions survived repeated aerial attack by U.S. precision guided munitions. Yet in spite of over a week of sustained heavy bombing, al Qaeda positions on (OBJ) Ginger survived to fire upon U.S. infantry when they finally reached the objective."

Insurgents have also sought shelter in underground complexes and frequently use civilians as shields, making the need for low caliber and low blast radius precision more acute. Additionally, the reality remains that even though we can drop a smart bomb right into the lap of a terrorist leader it still contains over 100 to 2,000 pounds of explosives detonating in an attempt to target a handful of individuals in an urban area. American forces in Iraq and Afghanistan immediately turn to supporting arms when they come under fire. Infantry forces must perfect their core competency at closing with the enemy through maneuver using organic weapons for direct fire support. Increasing force distribution and smaller functional units operating on the battlefield demand CA/CW light infantry forces. Guiding these units with reconnaissance-pull techniques driven from a detailed human intelligence network will equalize the corresponding decrease in supporting arms employed thus limiting collateral damage.

Light infantry units form the backbone of asymmetric warfare, making it imperative that they maintain their core skills in maneuvering under fire in teams of varying size and the time-honored basics of sound techniques and procedures such as marksmanship, tracking, and flexible battle drills.

In his book *Tactics of the Crescent Moon: Militant Muslim Combat Methods*, John H. Poole wrote, "Light infantry is a surprise and terrain dependant force. These protect it from tanks and artillery, compartmentalize its opponents and mask its movements. The characteristic of light infantry tactics everywhere is infiltration in the attack and ambush and counter stroke in the defense."

The combination of machine guns, assault rifles, grenades and other man-portable systems within an infantry squad mirror the infantry, tank, artillery, and aircraft team. Operating independently from other friendly forces, reconsider the traditional infantry platoon for a mission dependent task or battle group configuration of multiple, variably armed fire teams. Using a core infantry fire team of one light machine gun, one grenade launcher, one designated marksman and one rifleman or scout supplemented as mission

requirements dictates with any combination of the following teams forming the CW infantry battle unit.

#### Anti-Aircraft Team

- Surface-to-air missile (SAM) team of two Soldiers armed with a Stinger SAM launcher

#### Heavy or Medium Machine Gun Team

- Vehicle-borne M2 or two Soldiers with an M240B

#### Anti-Tank Team

- Anti-tank team of two Soldiers armed with four to eight AT-4 launchers or Javelin systems or vehicle-mounted TOW system

#### Scout/Sniper Team

- Sniper team of two Soldiers armed with an M24 or M110 rifle

#### Demolition Team

- Demo team of two Soldiers appropriately armed with demolition materials

#### Explosive Ordnance Disposal Team

- Two EOD technicians

#### Intelligence Team

- Intel team of two Human Intelligence specialists

Employing the battle unit of variably armed fire teams yields a mission specific force that can be commanded by a staff sergeant through captain depending on its size and tasks. These teams can also be augmented with vehicles to carry heavier weapons such as the TOW or Vulcan Systems and include armor, artillery, etc. Sections of two to three tanks and/or self-propelled artillery and dedicated aircraft should be incorporated when missions require. The CA/CW infantry battle unit can operate in difficult terrain widely distributed from other friendly forces and employ precision strikes against equally distributed teams of terrorists and insurgents, greatly limiting the use of collateral damage caused by indirect fire or direct air assets.

### Conclusion

Modern combat requires a mix of arms and weapons that through maneuver exploits the capabilities of each while avoiding their weaknesses. CA, which is also inclusive of CW, is essential to winning battles, evolving to include machine guns, rifles, shoulder fired rockets and demolition charges — not only tanks, infantry, aircraft and artillery. CA is universally applicable to all conflicts and field conditions. As our enemies are unable to offer any meaningful resistance through conventional means, they have turned to the unconventional. Any hope of successfully tracking and engaging terrorists, guerrilla fighters and suicide attackers without creating more animosity through collateral damage and a new generation of fighters seeking revenge can only be accomplished with CA teams of highly trained infantry battle units.

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