

*Manifestations of the Egyptian Army's Actions in the US Army's
1976 Edition of FM 100-5 Operations*

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During the years in which the United States has been entangled in the land war in South-East Asia, the Soviet Union has significantly increased its conventional forces, as well as acquired new weapon systems in the air and on the ground. Against these processes, the United States needed a new doctrine for warfighting against the Warsaw Pact forces in Central Europe. The existing doctrine stipulated that the NATO forces would stop the Warsaw Pact armoured mass and then launch a counterattack. However, if the conventional containment failed, the NATO forces would have to resort to tactical nuclear weapons. It was clear that the use of nuclear weapons would bring about the total destruction of Western Germany, as well as an escalation of the war and massive mutual destruction. Thus, the American strategists, together with the strategic planners of other NATO countries, have looked for ways to contest the conventional

soviet military power, both quantitatively and qualitatively, while avoiding the use of nuclear weapons.¹

Following the American involvement in Vietnam Army Chief of Staff, General Creighton Abrahams, led dramatic reforms in the US Army. The mighty task to make reforms in the Army was allocated to the Training and Doctrine Command (TRADOC), a new command formed in 1973. This was the year that a new war broke out in the Middle East – the Yom Kippur War, 6-24 October, 1973. The vast literature concerning the analysis of these reforms, including official US military histories, emphasizes American studies of Yom Kippur War battles and the lessons gleaned from it. Official US Army history concerning the Gulf War clearly states that the lessons of the Yom Kippur War had a significant role in rehabilitating the US Army after the Vietnam War. These lessons were implemented in the training system and doctrine of the Army leading up to the campaign of winter 1991.²

Special attention is given by the Americans to the IDF combat actions to hold back Syrian and Egyptian attacks, as well as to the fact that both Arab armies followed Soviet doctrine. The Yom Kippur War, says Paul Herbert, had proven just how unprepared for a future war the US Army was, and the questions which rose from the lessons of the Yom Kippur War demanded in-depth reforms for the Army.³ General William DePuy, the first TRADOC commander, claimed that the Yom Kippur War presented significant lessons for the Army, in an array of fields.⁴ The same arises from referencing a TRADOC Department of History study.⁵ And yet, the war was just one of many factors affecting reform-shapers and was in no way the sole influence.

¹ Eduard Mark, *Defending the West: The United States Air Force and European Security 1946-1998* (Washington D.C.: Air Force History and Museums Program, 1999), pp. 44-48.

² See: Robert H. Scales, *Certain Victory: The US Army in the Gulf War* (Washington D.C.: US Army Command and General Staff College Press, 1993), pp. 9-15. Official TRADOC historian John Romjue also claims that the lessons of the Yom Kippur War affected the 1976 and 1982 editions of FM 100-5 OPS. See: John L. Romjue, "AirLand Battle: The Historical Background," *Military Review*, March 1986, p. 53.

³ Paul H. Herbert, *Deciding What Has to be Done: General William E. DePuy and the 1976 Edition of 100-5 Operations* (US Army, Command and General Staff, Fort Leavenworth, 1988), p. 36.

⁴ Richard M. Swain, *Selected Papers of General William E. DePuy* (Fort Leavenworth: Combat Studies Institute, U.S. Army Command and General Staff College, 1994), pp. 75-77.

⁵ John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982* (Historical Office US Army-TRADOC: Fort Monroe VA, 1984), p. 2.

This article suggests that American officers were faced with a critical issue: While the US was off fighting in Vietnam, the Soviets were upgrading their arsenal and expanding the conventional force of the Red Army. More importantly, they were updating Soviet war doctrine and increasing manpower.⁶ This occurred while the US was occupied with mobile warfare deep in the jungles and rice paddies of South Vietnam. Such warfare was based on small-scale infantry, transported to the battlefields via air; they were provided massive fire assistance but did not operate in large-scale formations. The massive operations of late 1966 and early 1967, such as Operations Cedar Falls and Junction City began as corps-level operations but quickly evolved into dozens of platoon-level search-and-destroy missions. The solution was all-encompassing, founded in four elements: manpower reform, doctrine reform, new weapons systems, and a reform of the tactical-level training system.⁷ This paper shall focus on the beginning of the doctrine reform process.

TRADOC began conducting intensive field work with the goal of forming a new military doctrine for the US Army, with the goal of discovering the military mechanism with which NATO forces could ward off a future Soviet invasion while avoiding the use of tactical nuclear weapons and beyond. By July 1976 a new edition of the FM 100-5 Operations had been published.⁸

This article adds another aspect to these claims. The 1976 edition clearly reveals that the doctrine sanctified defense over offense and firepower over maneuvering. However, this was not how the IDF operated. Even in strategic-level defensive battles,

⁶ Edward B. Atkeson, "Soviet Theater Forces as a Descending Path," in *Soviet Strategy and New Military Thinking*, eds., Derek Leebaert and Timothy Dickinson (Cambridge: Cambridge UP, 1992), pp. 84-93; David M. Glantz, *The Military Strategy of the Soviet Union: A History* (London: Frank Cass, 1992), pp. 189-198; David Miller, *The Cold War: A Military History* (New York: St. Martin Press, 1998), pp. 250-254, 262-265; Thomas G. Mahnken, *Technology and the American Way of War since 1945* (New York: Columbia UP, 2008), p. 127. For a discussion of Soviet armed forces, see: Andrew Cockburn, *The Threat: Inside the Soviet Military Machine* (New York: Random House, 1983), pp. 117-138.

⁷ On the reforms in the US Army after the Vietnam War, see: Matthew S. Muehlbauer and David J. Ulbrich, *Ways of War: American Military History from the Colonial Era to the Twenty-First Century* (New York: Routledge, 2014), pp. 485-488; Adrian R. Lewis, *The American Culture of War: The History of U.S. Military Forces from World War II to Operation Enduring Freedom* (New York: Routledge, 2012), pp. 289-302; Richard W. Stewart, *American Military History (vol. 2): The United States Army in a Global Era, 1917-2008* (Washington D.C., Center of Military History, US Army, 2010), pp. 373-396.

⁸ Walter E. Kretchik, *U.S. Army Doctrine: From the American Revolution to the War on Terror* (Lawrence: Kansas UP, 2011), pp. 197-198.

especially in the Golan Heights, it adhered to tactical and micro-tactical offenses. Furthermore, on 8 October, the IDF set out on two multi-divisionary counterattacks, the first of which, in the Sinai, failed while the second, Golan Heights, succeeded. With this in mind, the argument put forward by this paper will be that it was in fact the Egyptian model that set a better example from which to learn and implement in the Central European arena. The analysis of the Egyptian model in contrast with the characteristics of the 1976 edition will stand at the core of this paper. In other words, we shall analyze how the execution of the Egyptian war plans, up to 14 October, manifested in American doctrine.

A review of different military theories exposes the ongoing dispute over defense and offense as the superior form of battle. A victory of one school results in the writing of a suitable doctrine, power building and force training, and the acquisition of weapons in support of the victorious school. One school's superiority, however, does not necessitate the complete demise of the other; rather, it is given lesser attention. Such a debate remains artificial, since the methods of war management are countered by the goals of war. Thus, if the goal is to prevent an enemy from invading and occupying territories and said goal was achieved via a defensive campaign, then the defending army is the victorious one. Herein lays another goal of this paper: adding another facet to the theoretical offense-vs.-defense debate. Egyptian battles and their possible manifestations in the 1976 edition of the FM 100-5 Operations will act as a case study.

The first part of this paper will analyze the Egyptian war plan and its execution from the beginning of the war until the Egyptian offensive of 14 October. Lastly, we shall analyze the operational principals of the 1976 edition as presented herein, and point out the Egyptian influence on American doctrine, thereby adding another aspect to the study of historical influence on shaping American doctrine in the post-Vietnam era.

The conclusions and insights of this article are based on my interpretation and integration of four categories of sources: The literature describing the Egyptian movements during the first days of the Yom-Kippur War, the writings of General DePuy, official historical research performed by the US Army and reading into FM-100-5 Operations (1976). Although the 1976 edition of FM-100 5 does not mention the Yom-Kippur War, the official history of the Army recognizes the influence of that war on the

doctrine created by DePuy. Moreover, his writings clearly attest to such an influence, and Richard Swain maintains that the Yom-Kippur War was one of the central influences on DePuy, while he was commanding TRADOC. A clear analogy can be⁹ made to the 1982 edition of FM-100 5, written during the term of Donn Starry as Commanding General of TRADOC. This edition also had no direct reference to the¹⁰ Yom-Kippur War, but in this case as well, the influence of that war on General Starry's military thought is obvious both from his writings and from historical research.¹¹

The literature describing the post-Vietnam reforms implemented in the US Army clearly describes the process of lessons extraction performed by the Army. The conclusions of the American officer corps, led by generals DePuy and Starry emerged out of a global observation of the war and its moves in the various fronts, even if there is no explicit indication of which of the warring sides the lessons were learned from. The US military is a learning organization, which emphasizes study and research of military history, and dedicates many courses in all the military academies to this goal. Thus, this basic assumption, together with reading Depuy's writings, backed by the official history of the Army, drive me to the conclusion that the impact of the patterns of action of the Egyptian military can be discerned in the 1976 edition of FM 100-5 Operations.

Prior to discussing the Egyptian war plans and their implementations, one must briefly present the three main forms of defensive battle.¹² The first is area defense, where the majority of defending forces are situated in mobile defense stations/positions which are located on one or several defense lines. Multi-linear defense combines infantry with artillery backup as well as anti-tank weaponry, minefields and other anti-armor and anti-personal obstacles, both natural and artificial. In this manner the

⁹ Richard M. Swain, "AirLand Battle", in *Camp Colt to Desert Storm: The History of U.S. Armored Force*, eds. George F. Hofmann and Donn A. Starry (Lexington: Kentucky UP, 1999), p. 365.

¹⁰ Donn A. Starry, "Reflections," in *Camp Colt to Desert Storm: The History of U.S. Armored Forces*, eds., George F. Hofmann and Donn A. Starry (Lexington: Kentucky UP, 1999), pp. 548-550. See also: Diene L. Urbina, "Lethal beyond All Exactions: The Bradley Fighting Vehicle," in *Camp Colt to Desert Storm: The History of U.S. Armored Forces*, eds. George F. Hofmann and Donn A. Starry (Lexington: Kentucky UP, 1999), pp. 408-409.

¹¹ See: Jonathan M. House, *Combined Arms Warfare in the Twentieth Century* (Lawrence: Kansas UP, 2001), pp. 239-240.

¹² Department of the Army, *Field Manual 3-0: Operations* (October 2017), Ch. 6.

majority of the defending forces are stationed in immobile defense positions, either single- or multi-linear. Multi-linear defense incorporates artillery-assisted trenched-in infantry, anti-tank weaponry and minefields. Other tanks units provide additional assistance in hard-hit areas, or counter-attack after thwarting the initial attack. This form of defense was characteristic of Soviet doctrine and employed by the Egyptian army after crossing the Suez Canal.¹³ This secondary form of defense can therefore be described as in-depth area defense. The second form of defensive battle is mobile defense, employed when the defending force cannot (or does not wish to) be located in stationary defense positions. The majority of the force will act as reserves that advance towards the advance enemy units. The third is flexible in-depth defense. This method combines defense of strategic points with employing mobile forces while temporarily relinquishing territories and at the same time venturing on suspension and restraint battles. This goes on until the defenders can summon enough mobile reserves to counterattack at the time and place of their choosing.¹⁴

Although flexible defense and area defense both allow for selective defense strategies, they differ in other manners: Area defense focuses on blocking enemy forces within the line of defense while utilizing natural and artificial obstacles; flexible defense shies from blocking the enemy at the front lines and instead prefers delaying its progress and wearing it down until the reserves can set out on a counter attack. The Egyptian military employed in-depth area defense tactics after crossing the Suez Canal, as defined by Soviet doctrine.

The Egyptian War Plan and its Execution

As soon as the War of Attrition ended, in August 1970, the Egyptian military began preparing for another war.¹⁵ Anwar Sadat had just become president after his predecessor, Abdel Nasser, passed away in the fall of 1970. Sadat did not share his

¹³ On defense in Soviet doctrine, see: Department of the Army, Field Manual 100-2-1, *The Soviet Army: Operations and Tactics* (Washington D.C., 1984), chapter 6, pp. 1-3.

¹⁴ Dani Asher, *The Egyptian Strategy for the Yom Kippur War: An Analysis* (Jefferson: McFarland, 2009), pp. 116-120.

¹⁵ The rehabilitation of the Egyptian military commenced as soon as the Six Day War ended, thanks to massive weapons shipments arriving from the USSR.

forerunner's approach to the Israeli problem. Instead of fighting for the Palestinians, the new leader focused on taking back the Sinai Peninsula, putting the Palestinian matter on hold. He sought out a diplomatic solution that would form the beginning of a political process prompting Israeli withdrawal from Sinai. Between the years 1971 and 1972, Sadat had attempted to realize his vision, and refused to accept the political stalemate that was perpetuating the harsh defeat of 1967. Egyptian interior policy had its downfalls, too, as a result of the country's downtrodden financial state. Sadat's rule was shaky, especially when compared to his charismatic predecessor; many of his countrymen considered Sadat's policy to be defeatist. All of these factors drove the new Egyptian president to reconsider the military option as a solution for the political stagnation and restoring Egypt to its previous national glory.¹⁶

Sadat was aware of Egypt's military weakness and knew full well that his forces could not withstand the IDF's armored maneuvering skills combined with its air force.¹⁷ Since he considered military action to be a process directly linked to political progress, Sadat wished to start a general war with limited goals, employing the entirety of the Egyptian forces in an attempt to achieve military goals that would release Egypt from the political stagnation. He hoped to cross the Suez Canal, take over a several-kilometers-deep strip of land and counter the IDF who, in their counterattacks, would undoubtedly attempt to destroy any crossing forces and later try and cross the canal themselves. Although Egyptian and Arab rhetoric in general promoted the destruction of Israel, it seems that Egypt's goals focused on a limited military procedure that would damage Israel's perception of security, land a few strikes that would slightly hinder the IDF and return Egypt its long-lost honor, and most importantly, as it already said, break out the political stasis with Israel.

The Egyptian war plan apparently included two main stages. The first was crossing the Suez Canal and basing the troops in defense formation in its eastern bank. The second stage was comprised of assembling and acquiring forces, reinforcing defenses and countering Israeli counterattacks. This stage included a plan to connect all bridgeheads. Clearly, the Egyptian plan was based on Soviet doctrine as well as on

¹⁶ Frank Aker, *October 1973* (Hamden: Archon Books, 1985), pp. 14-16; George W. Gawrych, *The Albatross of Decisive Victory: War and Policy between Egypt and Israel in the 1967 and 1973 Arab-Israeli Wars* (Westport: Greenwood Press, 2000), pp. 131-135.

¹⁷ Peter Allen, *The Yom Kippur War* (New York: Charles Scriber's Sons, 1982), p. 31.

massive acquisition of advanced weapons – including Scud missiles which would penetrate deep into Israeli territory if Israel will hit any strategic targets in Egypt, as had happened during the War of Attrition. Soviet doctrine provided only partial solutions to the unique strategic issues faced by the Egyptian planners. While the crossing of the canal indeed followed Soviet principles, the second stage of defense and battling counterattacks was of pure Egyptian strategy; it was designed to prepare the Egyptian forces for effectively facing the IDF's superior armored maneuvering skills and aerial force.

The two-staged plan was executed in full within the first days of the war.¹⁸ The Egyptian forces crossed the canal and bypassed IDF strongholds, thwarting Israeli tanks improvise attempts to return to the posts or stop the Egyptians. Later efforts focused on increasing control over the eastern bank by way of expanding to the east, creating defensive depth, and to the north and south in an attempt to connect the five bridgeheads, forming two consecutive defense areas on the army level.

The Egyptian defense layout was 8-12 km deep and combined both area and mobile defense. This strategy was four-faceted, emphasizing firepower in face of the IDF's maneuvering skills. The first facet was minefields laid out at the front of the defense layout. The second and primary facet was a tight layout of various anti-tank warfare, namely AT-3 'Sagger' anti-tank guided missiles (ATGM) and RPG-7 rocket launchers, but also different calibers of anti-tank cannons, tanks, and Sagger-carrying armored vehicles tasked with enhancing the static defense layouts in case if an Israeli attack.¹⁹ The anti-tank layout was rounded off by anti-tank teams, 'tank hunters' mostly made up of Egyptian commando forces who at times ventured beyond the defense layouts in order to stakeout IDF armored forces heading toward the canal crossing points.

The third facet of the Egyptian strategy was a tight anti-aircraft layout made up of missiles and anti-aircraft artillery (AAA). The majority of SA-2, SA-3 and mobile SA-6 missile batteries were positioned on the canal's western bank, while SA-7 shoulder

¹⁸ For an overview of the battles occurring between 6-8 October 1973, see for instance: Edgar O'Ballance, *No Victor, No Vanquished: The Yom Kippur War*, (San Rafael: Presidio, 1978), pp. 65-91.

¹⁹ Trevor N. Dupuy, *Elusive Victory: The Arab – Israeli Wars, 1947-1974* (New York: Harper & Row, 1978), pp. 401-410.

missiles and other AAAs such as ZSU-23X4 were positioned on the eastern one.²⁰ This layout allowed the Egyptians to target and hit IAF crafts, critically disrupting the IAF's superiority and ability to assist the ground forces. The fourth facet was massive use of artillery, first as an assistive maneuver for the crossing forces and later targeting Israeli armored forces, preventing them from positioning and firing towards the Egyptian forces.

Egyptian Chief of Staff Saad El Shazly viewed these defensive belts as the operational solution for the balance of power and combat efficacy relationship between the Egyptian army and the IDF. He claimed that Egypt's main downfall was Israel's air superiority and armored counterattacks. The solution would be a swift crossing of the canal and immediate set up in defense layouts; any further offensive attempt, per El Shazly, would be impossible and destined for failure.²¹ Egyptian high command assumed that the IDF would set out on an armored counterattack within 30 minutes to 2 hours, but knew that Egyptian armored forces could cross the canal and initiate battle only 16 hours after the initial crossing. Their solution was four-pronged: Massive anti-tank armament for the infantry; limiting eastward advancement by settling into defense layouts several kilometers away from the banks of the canal, thereby easily receiving direct tank assistance from the western bank; massive artillery use; and remaining under anti-aircraft protection.²² These strategies enabled the Egyptian army to offset the IDF's armored counterattacks, most specifically the 8 October counterattack, later deemed the First Battle per the 1976 edition (or per DePuy).

The concept of 'First Battle' argues that one army must achieve military success the very first battle impose by the enemy, namely due to inferior numbers, lack of depth to retreat to, and the length of time necessary for the arrival of the reserves.

The Egyptian defense layouts eliminated the IDF's operational advantage, i.e., armored maneuvers and air superiority, and maintained these layouts throughout the first week of the war, afraid to lose their anti-aircraft and anti-tank protections. It

²⁰ For a discussion of the Egyptian aerial defense layout, see: Kenneth P. Werrel, *Archie to SAM: A Short Operational History of Ground-Based Air Defense* (Maxwell AFB AL: Air University Press, 2005), pp. 149-152.

²¹ Saad El Shazly, *The Crossing of the Suez* (San Francisco: American Mideast Research, 2003), pp. 18-27.

²² *Ibid.*, pp. 33-34.

appears that Egypt believed it had achieved its war goals, especially after the successful thwarting of the October 8 Israeli counterattack. Thus, the Egyptians could give a political expression to the military achievements of the first few days of the war. From a military standpoint, Egyptian command assumed that the military's limited abilities were spent when it came to the Israeli armored maneuverability advantage, given their ability to maintain possession of areas vital for fix defense without getting lost in complex operations – a natural outcome of mobile armored warfare. Egypt had in fact given up on offense and maneuverability as soon as its forces completed the canal crossing and had based themselves in defense layouts. Soviet doctrine viewed defense layouts as a temporary state assumed in order to allow the arrival of logistics and reserves and to prepare for the next offensive stage. While the Egyptian military halted and seemingly did not intend to continue eastward, the formation of its defense layouts matched those of Soviet doctrine.

On 14 October, Egypt set out on a large-scale offensive to the east,²³ a politically-influenced decision intended to diffuse some of the military pressure Israel had been posing on Syria. The attack did not meet the approval of several military officials who were well aware of the Egyptian inferiority in the face of Israeli armored forces.²⁴ Moreover, the Egyptian armored forces ventured outside the protection of anti-aircraft and anti-tank layouts; from that moment on, the IDF's operational advantage was fully realized, both in armored maneuverability and in close air support to the ground forces. The October 14 battle is considered to be the grandest armored battle since the Battle of Kursk, 14 July 1943. It ended with a crushing Egyptian defeat, with some 200 tanks lost, whereas Israel only lost 20. The attack sent the Egyptians back to their defense layouts and paved the way for an Israeli offensive initiative on that front. Two days after the failed Egyptian attack, IDF began crossing the canal and settling in its western bank. In fact, says Gawrych, one of the reasons for the 14 October failure was the fact that the Egyptians strayed from the "combined arms approach...for more tank-heavy formation..."²⁵

²³ On the Egyptian attack and the reasons for its failure, see: Depuy, *Elusive Victory*, pp. 485-491.

²⁴ See for instance: Shazly, *The Crossing of the Suez*, pp. 236-237, 246.

²⁵ Gawrych, *The Albatross of Decisive Victory*, p. 208.

Analyzing the series of events following the canal crossing, using Clausewitz's theory, one can claim that Egypt was well aware of its military inferiority in terms of armored maneuverability and air power. Per Clausewitz, Egypt set itself as the weaker combatant side with a universal, trans-historical tendency for defensive battles. This tendency makes up for Egypt's military inferiorities, correctly assuming that the IDF's armored counterattacks would fall at the defense layouts on the eastern bank of the canal, as well as wear down the Israeli forces and inflict severe damage and losses. While the primary move of crossing the canal was an outright offensive move, one must keep in mind that it was based on armed infantry using anti-tank weapons, in an attempt to quickly secure the eastern bank and settle into a defense layout in anticipation of the Israeli armored forces' counterattacks.

FM 100-5 Operations (1976): Doctrine Principles

The American strategists at TRADOC, headed by General William DePuy, ascertained that the Egyptian and Syrian armies operated according to Soviet doctrine. This doctrine's primary assumption was that a swift and decisive victory must be achieved via mobile battles and surprise attack.²⁶ This fit in well with DePuy's survey of the Yom Kippur War, from which he had deduced the following three lessons: First, the battlefield had become deadlier;²⁷ second, tactical training might make all the difference between success and failure, i.e., a war is dependent on the quality of the warriors and not necessarily on quality and quantity of weapons.²⁸ This perception expressed the American military's assumption that technological equality exists and that the combat platforms of both sides share similarities. The third lesson was that modern warfare requires tighter combined operations. This last point became clear given the IDF's complete reliance on tanks as a single weapons system whereas the Arab militaries combined armor, anti-tank equipped infantry, and artillery, a fact that caused the IDF

²⁶ See discussion in: P. H. Vigor, *Soviet Blitzkrieg Theory* (London: MacMillan, 1984), pp. 1-9, 157-163.

²⁷ General William DePuy to General Creighton Abrams, Army Chief of Staff (14 January 1974), Richard M. Swain (ed.), *Selected Papers of General William E. DePuy* (Fort Leavenworth: Combat Studies Institute, Command and General Staff College, 1994), pp. 69-74; Herbert, *Deciding What Has to be Done*, pp. 31, 33.

²⁸ Harry G. Summers, "The Army after Vietnam", in: Kenneth J. Hagan and William R. Roberts (eds.), *Against All Enemies* (New York: Greenwood Press, 1986), pp. 363.

great losses.²⁹ Thus, the American military gained knowledge from both the IDF's failures and the success of the combined Arab forces during the early days of the war.

According to the Israeli concept of security, surprise Arab attacks were to be held back by the regular armored forces, with the air force acting as 'flying artillery.' The IDF would then engage in a counterattack using reserves.³⁰ Additional armored units were thus formed, somewhat neglecting artillery and infantry force structure.³¹ This doctrine was designed with the experiments of previous wars in mind. The Kadesh Operation, in 1956, and the Six-Day War, in 1967, demonstrated that war can be decided mainly by armored maneuvering as enemy infantry were no match for the Israeli armored brigades. The IDF doctrine claimed that the most efficient weapons system against Arab armored forces was the Israeli armored force. Thus, infantry was provided with little, if any, advanced anti-tank weaponry.

Arab forces were quick to learn lessons of their own from the Six-Day War defeat. Arab armored forces were in sync with the infantry, equipped with thousands of missiles and anti-tank rocket launchers. The infantry was granted massive artillery assistance and efficient anti-aircraft defense in an attempt to match Israel's superior air and armored maneuverability. At the Sinai front, the Arabs formed bridgeheads using infantry, without any armored maneuvering as they knew that those forces would be crushed by Israeli armor and air assets. Once they had crossed the Suez Canal, the infantry entrenched themselves, forming defense layouts based on anti-tank warfare.³² The Americans concluded that land force compatibility must be expanded, that the infantry must be provided with advanced anti-tank weapons that infantry and armored corps collaboration must be improved, and that artillery firepower and precision must

²⁹ See discussion in: Seymour J. Deitchman, *New Technology and Military Power* (Boulder: Westview Press, 1979), pp. 63-80. The chapter examines classic armored warfare and the fact that the battlefield had become rich with anti-tank missiles. The historical basis for the chapter is the armored battles of the Yom Kippur War.

³⁰ This is the approach that stands at the core of the *Sela Plan*, published in August 18 1967 and occasionally updates. For a review of the Israeli perception of strategy, see: Abraham Rabinovich, *The Yom Kippur War: The Epic Encounter that Transformed the Middle East* (New York: Schocken Books, 2004), pp. 31-38.

³¹ Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War (vol.1): The Arab-Israeli Conflicts, 1973-1982* (Boulder: Westview Press, 1990), p. 55.

³² Cordesman and Wagner, *The Lessons of Modern War (vol.1)*, pp. 64-65.

be reinforced.³³ These conclusions fit in with the US Army's development and equipping with new weapons systems such as a new main battle tank (M-1 Abrams), an advanced APC for infantry use (M2/M3 Bradley), and the MLRS.

General DePuy's passion for a new APC could be attributed to the power struggle between the military and civilian echelons at the Pentagon; but one must keep in mind that the general was, first and foremost, a professional officer who continually learned from previous wars and was motivated by the desire to protect the lives of American soldiers.³⁴ The need for a new APC was born of the realization that the infantry was in dire need of a more protective platform when travelling alongside the armored forces, especially given the vulnerability of the IDF's personnel carriers – specifically the M-113 – and the operational efficiency of the various APCs used by the Arab forces (BMPs, BTRs, and BRDMs).³⁵

DePuy's conclusions are clearly vocalized in the 1976 edition of the FM 100-5 OPS. The military first had to let go of the Vietnam-era thinking patterns, i.e., small-scale, air-mobility-based warfare, and return to the conventional, fire-armor laden battlefields of central Europe. This approach, per Paul Herbert, was greatly affected by the Yom Kippur War; he claims DePuy recognized that the American military could not ignore the course of war and should, at the very least, study it in order to see whether there were lessons to be gleaned from it.³⁶

The massive staff work in TRADOC eventually led to the publishing of a new doctrine which replaced the previous one of the Vietnam War era.³⁷ The new doctrine, called Active Defense, determined that a war of attrition of sorts, by way of constantly replacing the front line units, would occur if the Warsaw Alliance attacked. The main goal would be to simply hold on until reserve forces could be brought to bear. The

³³ Lecture before the Association of the United States Army (24/4/1978). In: Lewis Sorley (ed.), *Press On!: Selected Works of General Donn A. Starry* (US Army Combined Arms Center: Combat Studies Institute Press, Fort Leavenworth Kansas, 2009) *Starry's Papers*, pp. 312-317.

³⁴ Specifically his experience in WWII and as the commander of the first infantry division in the Vietnam War. See: Herbert, *Deciding what has to be done*, pp. 12-16, 19-20. Herbert demonstrates DePuy's ever present need to minimize American force losses.

³⁵ Miller, *The Cold War*, pp. 278-279; Herbert, *Deciding what has to be done*, p. 33. See also a discussion in: Cordesman and Wagner, *The Lessons of Modern War (vol. 1)*, pp. 57-64.

³⁶ Herbert, *Deciding What Has to be Done*, pp. 30-31.

³⁷ The 1968 edition of the FM 100-5 OPS.

commanders at the front could hold limited counter attacks only against enemy flanks, and only when positive results were guaranteed – that is, losses for the attacking forces, or the destruction of targets deemed necessary for the successful running of the battles. Defensive battles were favored, even though the American military traditionally claimed victory can only be achieved via an offensive initiative.

The mission of the US Army is laid out in the opening pages of the document: “winning the land battle”³⁸ but, simplistically summarizing the essence of the doctrine, victory is to be achieved via massive firepower, modern technology-based weaponry rather than maneuvering.³⁹ The emphasis, right from the start and throughout the entire document, is that the Army must win the first battle. Here again we find a substantial change in the American perception of war. In many of the wars in which the US played a part, American forces suffered heavy losses and even defeats during the first battles.⁴⁰ As the war waged on and the Americans found their footing, they began to counter attack, gaining the upper hand and eventually winning the war. The Warsaw Alliance forces’ superiority in manpower and in the type and deadly efficiency of their weapons, as seen in the Yom Kippur War, , meant that, for DePuy, it was essential to win the first battle in order to win the war.⁴¹ Another justification for the claim that the first-battle-must-be-won approach, i.e., blocking the attacker at the borderline, was that the level topography of West Germany prevented in-depth defense line organization, and the small size of the country prohibited large unit maneuvering against counterattacks.

The second chapter discusses the impressive technical advancements in modern weaponry, including those deployed in the Yom Kippur War.⁴² The doctrine highlights, via this discussion, the critical need for increased combined operations. The tank will

³⁸ FM 100-5 OPS (1976), p. i.

³⁹ FM 100-5 OPS (1976), pp. 3-5, 5-3.

⁴⁰ This approach stands at the core of the majority of the essays in Charles E. Heller and William A. Stofft (eds.), *America’s First Battles, 1776-1965* (Lawrence: Kansas UP, 1986). The book’s primary thesis is that once the battles of a real war began, American peace-time training proved irrelevant. One of the manifestations of DePuy’s reform was a dramatic restructuring of tactical soldier and officer training, up to the regiment level. These training reforms are beyond the scope of this paper. See: Herbert, *Deciding What Has to be Done*, pp. 26-27.

⁴¹ FM 100-5 OPS (1976), pp. 1-1, 1-2; Herbert, *Deciding What Has to be Done*, p. 31; Romjue, *From Active Defense to AirLand Battle*, pp. 15-16.

⁴² FM 100-5 OPS (1976), pp. 2-3, 2-6. On the Yom Kippur War as the first modern war after WWII, see for instance: Michael Carver, *War since 1945* (London: Weidenfeld and Nicolson, 1980), pp. 258-372.

remain the main battle platform, but it must work alongside a mechanized infantry.⁴³ It also highlighted the brute force of antitank-equipped infantry.⁴⁴ The ATGM threat hinders the tank's battlefield maneuvering capabilities, and because of that the infantry must operate in the vicinity of the tanks and take out enemy tank hunters. In order for the infantry to move as quickly as the tanks, they must be mobilized and employ advanced armored platforms.⁴⁵ The subchapter on infantry defense and mobility clarifies DePuy's desire for a new APC as a clear operational need.

The remainder of the second chapter determines that joint operations that combine armor, mechanized infantry, artillery, antiaircraft defense, close air support, engineering and electronic warfare form a combat mix which enhances firepower and can take out a Soviet attack. This approach of collaboration among the various corps is emphasized once more in the third chapter of the doctrine.⁴⁶ The third chapter also discusses the importance of tactical command (corps downward) in deciding the very first battle via pre-war (training) and in-war (combined operation) actions. An emphasis on tactical training would allow combat soldiers to better utilize their weapons, and enable tactical command to maximize the combined battle teams.⁴⁷

The third chapter argues that the defender has an advantage over the attacker only if he can use natural and artificial obstacles to his advantage. Thus, the defender must be very familiar with the terrain in order to manipulate the topography.⁴⁸ Walter Krechik claims that the Yom Kippur War is evidence of the validity of this statement. An analysis of the IDF's holding-defense battles in the Golan Heights, and the Egyptian curbing action of 8 October revealed that the defender who uses the terrain and

⁴³ Cordesman and Wagner, *The Lessons of Modern War*, pp. 52-55.

⁴⁴ FM 100-5 OPS (1976), pp. 2-7. See also: Cordesman and Wagner, *The Lessons of Modern War*, pp. 55-57.

⁴⁵ FM 100-5 OPS (1976), pp. 2-10.

⁴⁶ FM 100-5 OPS (1976), pp. 3-1.

⁴⁷ FM 100-5 OPS (1976), pp. 3-10. See in this regard: John Shy, "First Battles in Retrospect", in: Heller and Stofft (eds.), *America's First Battles*, pp. 327-352.

⁴⁸ For instance, territory which dominates the battlefield, or knowing the axes through which the enemy must travel and where to position ambushes. Depictions of the IDF battalion and company battles in the Yom Kippur War maintain that the fact that the IDF was well acquainted with the territories of the Golan Heights and Sinai were a significant factor in their tactical victories. In many cases, the territories in which the IDF trained became the very battlegrounds of 1973.

weapons to his advantage is most likely to succeed in holding back the attacker, even if the ratio of power is to his disadvantage.⁴⁹

There is no question of the defensive nature of the FM 100-5 OPS (1976). The fourth chapter, dealing with offense, supports this as well. It repeatedly warns against offensive action unless conditions are right for a considerable and successful blow to the enemy. This marked a dramatic retreat from the traditional mindset of American warfare which sanctified offense as the strongest form of battle, and the only means of attaining victory.⁵⁰ According to this chapter, the offensive advantage was held by the Warsaw Pact armies, whereas NATO was left to blocking the attacks. The goals and targets are clearly presented in the fifth chapter concerning defense. The main goal is to bring about the failure of the enemy's attack and protecting valuable infrastructures. The remainder of the chapter discusses other goals such as curbing action intended to bide time until support and reserves, mostly from the US, could arrive, as well as to wear down the enemy forces in preparation for an attack (according to the terms defined in the fourth chapter), appropriating dominating territory and forcing the enemy to center its forces in a way that would leave him exposed and susceptible to NATO fire power.⁵¹

The importance of joint operations also arises from the eighth chapter of the FM 100-5 Operations (1976) which demonstrates DePuy's position regarding the essence of modern warfare.⁵² In such a war, air and ground forces must operate in unison in order to improve intelligence gathering, electronic warfare, and enemy armor destruction capabilities, as well as to achieve better air defense. Moreover, the chapter claims – representing DePuy's approach – that ground forces cannot decide a ground battle without air support⁵³ – on the condition that air superiority over the battlefield was achieved, i.e., destruction of enemy AA layouts.⁵⁴ The philosophy presented in this

⁴⁹ Kretchik, *U.S. Army Doctrine*, p. 199.

⁵⁰ FM 100-5 OPS (1976), pp. 4-1 to 4-12. See also :Richard M. Swain, "Filling the Void: The Operational Art and the U.S. Army", in: B.J.C. McKercher and Michael Hennessy (eds.), *The Operational Art: Development in the Theories of War* (Westport: Praeger, 1998), p. 152.

⁵¹ Romjue, *From Active Defense to AirLand Battle*, p. 18.

⁵² Kretchik, *U.S. Army Doctrine*, p. 200.

⁵³ That is, the USAF Tactical Air Command (TAC), and not the aerial forces of the Army.

⁵⁴ FM 100-5 OPS (1976), pp. 8-1 to 8-7.

chapter defines the participation of the Air Force as complementary, assistive service to the defensive battle of the ground forces, a considerable expansion of artillery.

Discussion and Conclusions

Egypt fully recognized the superiority of the IDF in operating its armored forces, and that this nearly absolute advantage created a critical issue for any forces that would cross the canal and later the bridge heads to the eastern bank of the Suez Canal. The operational solution lay in erecting and operating a defensive layout based on a variety of anti-tank and anti-aircraft weapons. The first forces to cross, primarily infantry, successfully destroyed some 100 tanks in the first day of the war – about a third of the regular armored IDF forces in Sinai. In this manner, Egypt blocked the IDF's counter attacks and could continue the crossing and basing to the east of the canal. Thus, by 14 October, and primarily on 8 October, the Egyptian forces were able to successfully hold back a series of armored IDF counter attacks and cause severe losses to the Israeli armored and air forces.

An analysis of the 1976 FM 100-5 Operations from a doctrinal perspective concludes that General DePuy was largely influenced by the actions of the Egyptian military during the early days of the war, after it had crossed the canal and based itself in defense layouts, equipped with an array of anti-tank weaponry. The Israeli superiority in armor and aerial forces and its sole dependence on armored maneuvering capabilities was countered by the Egyptian combined arms approach which focused on infantry armored with various anti-tank weapons and aided by tanks, artillery and anti-aircraft defense.⁵⁵

These defense layouts were a crucial factor in the Egypt's containment of the 8 October counter attack, and in fact neutralized the armored forces of the IDF. The tight AA layout at the western bank of the canal nearly annihilated the Israeli air force's ability to operate over the Suez Canal. This attack, therefore, formed the first victory for Egypt.

⁵⁵ Gawrych, *The Albatross of Decisive Victory*, p. 156.

A discussion of the failed Egyptian counter attack is vital to understand additional principles included in the FM 100-5. The doctrine warns that a wide attack only works in the right conditions and if it is directed at the enemy flanks. The Egyptian offensive was a straight-forward movement against the Israeli forces, abandoning the defenses of AA and AT. The maneuvering Egyptian forces were therefore exposed, revealing the operational advantages of the IDF's maneuver tanks warfare and close air support. To conclude, the 1976 edition exposed the factors that led to the Egyptian successes and Israeli failures of the first days of the Yom Kippur War, and used the war as a military microcosm for American reformers.

This paper does not claim that the armed conflict between Israel and the Arab nations in October 1973 was solely responsible for the formation of American doctrines and the reforms in the US Army. The methodology on which this paper is based was a reading of the FM 100-5 OPS (1976) with a focus to find the military logic behind it. Nevertheless, one cannot ignore the relevance of the Yom Kippur War to the development of the reforms, if only due to the visit of the American officers in the battlefields of Sinai and the Golan Heights. The characteristics of the war repeatedly appear in various documents and written exchanges between US Army reform shapers. A comprehensive reading of the militaristic actions of the Yom Kippur War, complemented by the 1976 edition, teaches us of the vital role held by the Yom Kippur War in the military reforms undergone by the US Army after the Vietnam War.