



Penetrate, Disintegrate, and Exploit: The Israeli Counteroffensive at the Suez Canal, 1973



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Editor's Note: The views expressed in this report are those of the author and do not reflect the official position of the United States Military Academy, Department of the Army, or Department of Defense.

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Introduction

With the adoption of multidomain operations (MDO) as its central operational concept, the US Army is modernizing its approach to more effectively compete against a variety of state and nonstate adversaries. This development offers a pathway forward for the service to, as argued by Chairman of the Joint Chiefs of Staff General C.Q. Brown, Jr., “keep focus on what is essential in Jointness—working seamlessly across domains, Services, and the Total Force.”¹ Seeking to compel decision on increasingly lethal battlefields that challenge operational maneuver and formation endurance, the MDO concept—now codified in the Army’s capstone doctrine with corresponding changes in force structure—calls for novel interplay across the land, air, maritime, space, and cyber domains in order, as argued by the chairman, “to fight today’s battles but also to prepare for tomorrow’s wars.”²

While the Army must implement MDO and prepare to fight across the spectrum of conflict, conventional and large-scale combat operations pose a particularly important set of challenges.³ The rise of peer threats around the world and their involvement in such conflicts raise the possibility that the United States may, if deterrence fails, need to fight a war of expanded scale and intensity. At the same time, there is gradually diminishing institutional memory or experience the United States military can draw on to know what to expect during large-scale combat operations. Thus, it is important to balance the requirement to retain hard-won counterinsurgency competencies learned in Iraq and Afghanistan with emerging imperatives to prepare for expeditionary campaigns against peer adversaries.

Trends in recent large-scale combat such as the Battle of Mosul, the Nagorno-Karabakh War, and the Russia-Ukraine War suggest that the dominant character of modern warfare remains positional and attritional; the prospect of employing dynamic power projection to achieve decisive outcomes through offensive fire and maneuver will remain a

¹ Charles Q. Brown, JR., “Message to the Joint Force,” Washington, D.C., October 2, 2023.

² Ibid.

³ Headquarters, Department of the Army (HQDA), Field Manual 3-0: *Operations* (Washington D.C.: Government Printing Office, 2022), Chapter 1.

potentially necessary, if high risk, option.⁴ As explained in the Army's original MDO concept that emphasized "convergence" across joint, interagency, and multinational teams, this may require expeditionary ground forces, through integration of both traditional practices and emerging technologies, to "penetrate, dis-integrate, and exploit" increasingly sophisticated adversary defenses in places such as Eastern Europe and the South China Sea.⁵ Given the rising lethality of regional powers' antiaccess and area-denial capabilities, the prospect of executing maneuver into fiercely contested spaces should be considered with caution and humility lest the venture devolve into catastrophe. Nonetheless, it is important to study successful large-scale maneuver operations to maximize readiness if contributing to one ever becomes necessary.

History is replete with examples of armies that executed this kind of offensive action with decisive effect. Among these are Napoleon Bonaparte's masterpiece at Austerlitz in 1805 and the German invasion of France in 1940, yet it is the Israeli counteroffensive in the second week of the 1973 Arab-Israeli War, also called the Yom Kippur War, that represents a particularly relevant case study that featured mechanized penetration, contested river crossings, disintegration of air defense networks, reduction of antiarmor systems, and deep exploitation in rear areas. This costly campaign, which deeply informed the US Army's Active Defense and AirLand Battle reforms in the late Cold War, provided a bloody proving ground for new technologies and creative tactics as both Arab and Israeli forces adapted to the reality of a more destructive environment that demanded multidomain solutions to intractable problems.⁶

The 1973 conflict, with its cross-domain innovations, contested maneuver, and devastating losses, thus invites reconsideration by the US Army. Analyzing this war through the lens of the modern operational environment will yield important insights for dealing with new capabilities like precision strike, unmanned platforms, electronic warfare,

⁴ David Johnson, "The Army Risks Reasoning Backwards in Analyzing Ukraine," *War on the Rocks*, June 14, 2022.

⁵ TRADOC Pamphlet 525-3-1 *The U.S. Army in Multi-Domain Operations 2028* (Washington, D.C.: Government Printing Press, December 6, 2018), 25.

⁶ Ingo Trauschweizer, *The Cold War U.S. Army: Building Deterrence for Limited War* (Lawrence: University Press of Kansas, 2008), 201–205.

and informational innovations, alongside age-old challenges posed by massed artillery, constrained logistics, and restrictive terrain. Even as recent conflicts have shown the high cost of modern maneuver, the US Army may nevertheless be required to unleash high-tempo offensives while avoiding attrition and culmination. This kind of campaign, demanding the highest operational art in expeditionary settings, will likely require unprecedented cooperation across arms, services, and agencies in order to mitigate risk and, despite countervailing trends in modern warfare, achieve decisive outcomes under challenging circumstances.

Strategic and Operational Background

The sudden outbreak of war between Israel and a surrounding Arab coalition exploded in 1973 within a broader Cold War context where the former had demonstrated repeated superiority over the latter in a series of regional conflicts. While the Jewish state had secured independence in 1948 and demonstrated martial prowess in the 1956 Suez Crisis, it was the Six Day War in 1967, where Israel decisively defeated the combined forces of Egypt, Jordan, and Syria across divergent fronts, that established the new nation as a dominant power in the Middle East with control over the Sinai Peninsula, Golan Heights, and West Bank. As argued by British historian Michael Howard and Robert Hunter the same year, “The performance of the [Israel Defense Forces (IDF)] provided a text-book illustration for all the classical Principles of War: speed, surprise, concentration, security, information, the offensive, above all training and morale.”⁷

The scale and method of the IDF’s offensive success proved reminiscent of the overmatch of German blitzkrieg in 1939 and 1940. Beginning with preemptive strikes that mostly eliminated the Arab air forces on June 5, 1967, the 275 combat aircraft and one thousand tanks of the IDF then commenced a sequence of “lightning” maneuvers into the Sinai, Golan Heights, and West Bank over the next week that soundly defeated the Arab alliance and its combined arsenal of more than five hundred aircraft and nearly two

⁷ Michael Howard and Robert Hunter, *Israel and the Arab World: The Crisis of 1967* (London: The Institute for Strategic Studies, 1967), 39.

thousand tanks.⁸ From the Israeli perspective, the surprising degree of superiority by their outnumbered forces validated the primacy of fast-moving heavy armor with coordinated air interdiction. However, this belief led to an underappreciation of the need for combined-arms teams and overreliance on assumed air dominance to facilitate operational maneuver, which would bring it to the brink of defeat during the early days of the next conflict.

The danger of this misbelief stemmed, in part, from broader Cold War dynamics that included the proliferation of a new generation of precision surface-to-air missile systems (SAMS) and antiarmor weaponry. Seeking to learn from past mistakes while gaining asymmetric, if conditional, advantages, Egypt and Syria adopted Soviet-provided integrated air defenses comprised of SAM-2s, SAM-3s, SAM-6s, SAM-7s and ZSU-23-4 air defense artillery (ADA) systems designed to counter Israeli air dominance. On the ground, Arab forces likewise fielded man-portable Sagger guided missiles and RPG-7 rocket launchers to stymie predicted attacks by the IDF's feared armored corps.⁹ These systems, when operated as part of a larger, purpose-built, combined-arms team, consequently provided the potential to meaningfully contest Israeli strengths by preventing cross-domain cooperation and defeating the IDF order of battle in detail.

With new capabilities in hand, Egypt and Syria commenced the Fourth Arab-Israeli War on October 6, 1973, with simultaneous offensives into the Sinai Peninsula and Golan Heights to reclaim pride and territory. From the south, the Egyptian Army launched a massive assault across the Suez Canal with two corps-sized armies that overwhelmed the IDF's forts along the Bar Lev Line to establish an imposing defense protected by missile-equipped infantry, more than five hundred tanks, two thousand artillery pieces, and sixty-two missile batteries that included dozens of SA-6 systems. In the north, the Syrian Army's offensive with more than 1,200 tanks likewise made substantial progress and threatened the Israeli heartland. Both forces then wreaked havoc on the predictable counterattack by the Israeli Air Force (IAF) with radar-guided SAMS and ADA. While the IAF inflicted some damage, the loss of thirty aircraft in twenty-seven hours sparked alarm across the Israeli

⁸ George W. Gawrych, *The 1973 Arab-Israeli War: The Albatross of Decisive Victory* (Leavenworth: Combat Studies Institute, 1996), 3.

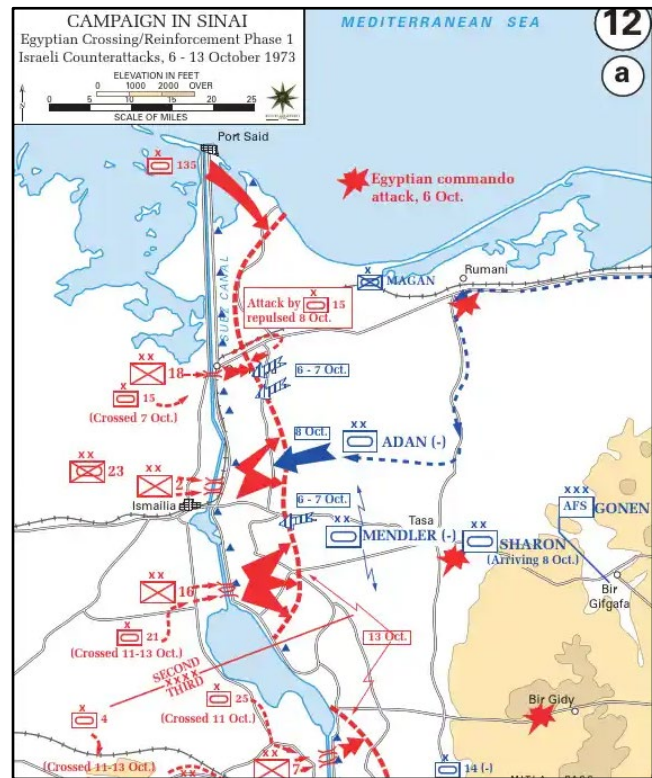
⁹ *Ibid.*, 19–20.

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command.¹⁰ The shattering defeat the 252nd Armored Division's piecemeal counterattack by Egyptian infantry equipped with antitank missiles along the canal further indicated something terribly amiss.

Realizing the scale of the Arab incursions, the Israeli people mobilized for war on Yom Kippur—their holiest of days. In the Southern Command, following the disaster in the Sinai on October 7, Avraham Adan's 162nd Reserve Armored Division, with Ariel Sharon's 143rd Reserve Armored Division in support, immediately launched a larger counterattack to retake the east bank of the canal. Seeking to emulate the decisive maneuver of the Six Day War, IDF armor prioritized speed and shock over combined-arms coordination, all while receiving insufficient air support, and accordingly suffered massive casualties as the entrenched Egyptian infantry unleashed a torrent of antitank fires that eliminated 40 percent of Israeli armor in that theater in just two days of fighting. Adan's dramatic loss of 83 of 183 tanks, combined with continued IAF losses to SAMS and ADA, led to a confused Israeli retreat that revealed a troubling dynamic: the main battle tank was now vulnerable to infantry armed with miniaturized, standoff weaponry in a way that threatened to upend notions of modern warfare.¹¹

Simultaneous to the disaster along the Suez Canal, the IDF countered the Syrian incursion in the north. However, in that theater, after initially losing substantial ground and suffering significant losses, three IDF brigades managed to hold part of the Golan Heights



Map 1. Egyptian Crossing and Israeli Counterattacks, 6–13 October 1973

¹⁰ Ibid., 40.

¹¹ Ibid., 52.

until reserves could arrive to reinforce and retake the burning heights on October 10. Mobilizing much more quickly than the Syrians had predicted, the Northern Command's 210th, 146th, and 36th Reserve Armored Divisions employed superior gunnery expertise while benefiting from flanking sorties by the IAF that destroyed critical Syrian radar sites to conduct a desperate assault on the Syrian line that soon catalyzed a confused retreat. Then, instead of transferring forces to the flagging Sinai front, the Israeli counteroffensive continued into Syria proper in order to gain territory for political leverage at the conclusion of hostilities. By October 14 the IDF had advanced to within thirty miles of Damascus, begun shelling the outskirts of the city, and seemingly staved off disaster on the Golan front.¹²

These dramatic setbacks for the Syrian Army held dire ramifications for the Sinai theater. Acceding to urgent requests to fulfill his promise to relieve pressure on the Golan front, President Anwar Sadat in Cairo ordered the 2nd and 3rd Armies, now holding defensive positions along the east bank of the Suez Canal, to attack deeper into the peninsula and seize key crossroads and commanding positions. The offensive, which required Egypt's operational reserve of two armored divisions to cross the canal and lead the attack, would unfold as the largest tank clash since the Battle of Kursk in 1943 and resulted in defeat for the Egyptians on October 14 as they emerged from their antiair and antitank coverages to assault into prepared areas. The ill-advised action cost the attackers more than 250 tanks as Israeli ground and air forces regained their confidence and repelled the stunned Egyptians back to their canal positions.¹³

With victory secure in the north and a successful defensive stand in the south, the Israeli high command now faced a problem: how to end the war on advantageous terms against a much larger adversary who could better afford a long, attritional contest. With the Egyptian 2nd and 3rd Armies firmly in possession of the east bank of the canal, the IDF needed to devise an operational approach that would account for its enemy's newfound lethality in both the air and land domains while inflicting a decisive enough blow to compel

¹² Dani Asher, *Inside Syria's Northern Command: The Yom Kipper War on the Syrian Border* (Lexington: University of Kentucky Press, 2016), 316, 342.

¹³ *Ibid.*, 57.

the Egyptian national leadership to agree to an armistice. Furthermore, after losing more than five hundred tanks, fifty attack aircraft, and thousands of casualties in the furious fighting of recent days, the Israeli leadership sought employ rapid and deep maneuver, along with air strikes in depth, to win quickly and convincingly without becoming mired in an unfavorable quagmire.¹⁴

The solution to the problem arrived in the form of a complicated combined-arms and joint approach that aimed to penetrate across the canal defenses, disintegrate the enemy air defenses, and exploit the opening with deep attacks. Now facing more a linear defense rather than a defense in depth after the crossing of the Egyptian reserve armor, the Israeli high command, at the exhorting of its most aggressive commander, Ariel Sharon, authorized an audacious scheme to maneuver three reconstituted armored divisions between, and then behind the Egyptian forces positioned along the canal and sever their vital lines of communication and logistical support back to Cairo.¹⁵ While the plan represented enormous risk given recent losses, it conversely promised an equally high reward if the Israelis could reconverge efforts across the air and land domains to achieve a decisive outcome and, against all odds, compel a favorable cessation of hostilities.

Penetration at the Suez Canal

The IDF Southern Command, now essentially comprising an armored corps, assigned Sharon's reinforced 143rd Armored Division to serve as the initial main effort with responsibility to secure routes to the canal, escort three separate bridging systems to the crossing point, and execute the initial crossing. Two additional mechanized divisions, now reconstituted with infantry and artillery support, would follow and exploit the crossing with a fourth, smaller division to remain on the east bank to fix and demonstrate. Yet the plan incurred enormous complexity and required minute synchronization by a military that could ill afford further attrition. As explained by the polemical Sharon, "The

¹⁴ Gawrych, *1973 Arab-Israeli War*, 40, 52–54; Trevor Dupuy, *Elusive Victory: The Arab-Israeli Wars, 1947–1974* (New York: Harper & Row Publishers, 1978), 609.

¹⁵ Dupuy, *Elusive Victory*, 480–481.

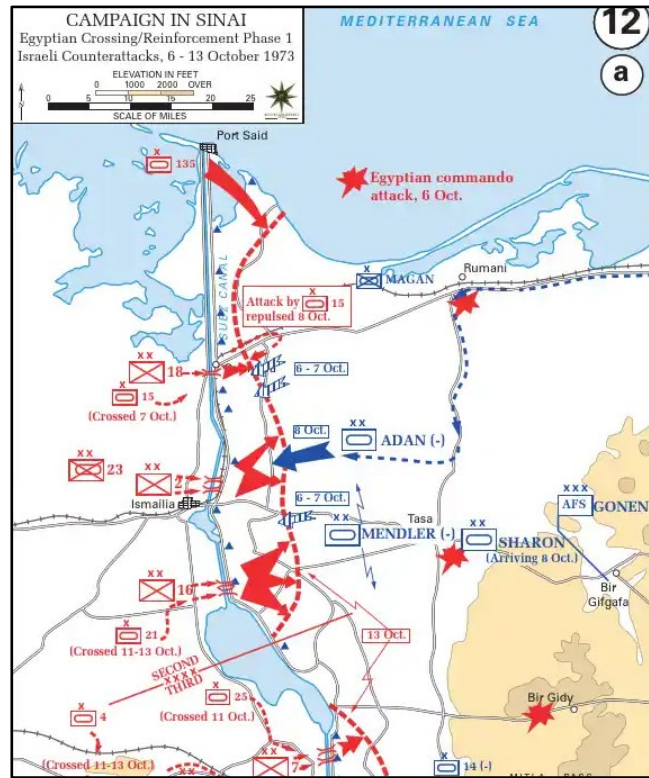
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main problem was how to reach the water and establish the bridgehead in the same night. We had to do it before daylight because if we lost surprise about our intentions we no doubt would have found quite a number of tanks waiting for us on the west side.”¹⁶

The 143rd Armored Division commenced the operation, called Stouthearted Men, on the evening of October 15 with its three armored brigades and the attached paratroopers all moving in different directions in an exceedingly complicated scheme of maneuver. Having identified a fortuitous gap between the Egyptian 2nd and 3rd

Armies just north of the Great Bitter Lake, Sharon ordered the elite paratroopers to conduct the initial crossing with rubber boats. Simultaneously, as IDF artillery unleashed suppression and diversionary fires against Egyptian positions along the entire canal front, he dispatched his 600th Armored Brigade to conduct a deception attack directly against the Egyptian 21st Armored Division north of the crossing point. The 14th Armored Brigade, which would suffer heavily in coming days, attacked from the south to clear the vital Akavish and Tirtur roads of enemy presence in order to allow the cumbersome bridge convoys to move to the point of crossing unmolested.¹⁷

With diversionary and clearing operations underway, the elite 247th Paratroopers Brigade hastily mounted on half-tracks and carrying rubber boats, moved directly to the selected crossing point. Several days prior, following the disastrous Egyptian attack into



Map 2. Operation Stouthearted Men (Gazelle), Planned Exploitation and Counterattacks

¹⁶ Charles Moher, “Israeli General Tells How Bridgehead Across the Suez Canal Was Established,” *New York Times*, November 12, 1973.

¹⁷ Amiram Ezoz, *Crossing Suez, 1973* (Tel Aviv: Content Now Books, 2016), 54.

central Sinai, Sharon's scouts had identified a gap between the 2nd and 3rd Armies just north of the Bitter Lake that promised a feasible crossing. Initially uncontested, the infantrymen first moved quietly through the night to reach the canal, occupied an abandoned fort nicknamed the Yard on the near side, rapidly executed the crossing under cover of darkness, and seized a precarious lodgment on the far side of the canal.¹⁸ Yet while this part of the operation proved successful, the 143rd Armored Division's other brigades were encountering enemy resistance and logistical challenges that threatened to unravel not just the division's, but the entire IDF's plan.

The first challenge stemmed from the chaotic and bloody fighting that erupted when the 14th Armored Brigade, assigned to attack northward to clear the routes leading to the canal, encountered entrenched Egyptian infantry and armor in areas thought to be free of enemy presence. In what would be called the Battle of the Chinese Farm, the Israelis and Egyptians engaged in vicious, close fighting throughout the night that littered the battlefield with dying men and burning tanks. When the situation became critical as the bridging convoys approached, the Southern Command ordered the 35th Paratroopers Brigade, and its 890th Paratroopers Battalion in particular, to reinforce the struggling IDF armor by clearing the entrenched enemy antitank positions. The resulting fighting saw the committed IDF forces endure high losses while eventually fixing, and pushing back, the stubborn fighters of the Egyptian 21st Armored Division.¹⁹

Even as Israeli forces fought to clear the road another problem was festering behind them: the main route had become congested and chaotic as the 421st Armored Brigade struggled to escort three convoys with different bridging systems from separate locations to the single point of crossing. While the four-hundred-ton roller bridge, which required twelve tanks to tow it, and the modular pontoon bridge each became bogged down along the routes at several points, the battalion escorting the self-propelled rafts enjoyed more success and were the first to arrive at the Yard.²⁰ To make matters worse, the hundreds of

¹⁸ Amiram Ezoz, "The Crossing Challenge: The Suez Canal Crossing by the Israel Defense Forces during the Yom Kippur War of 1973," *Journal of Military History* 82 (April 2018): 485.

¹⁹ *Ibid.*, 484.

²⁰ Ezoz, *Crossing Suez, 1973*, 183–184.

armored vehicles of Adan's 162nd Armored Division, with orders to assist with the Battle of the Chinese Farm and move into position to pass through the crossing point to exploit the opening, further congested the primary route as various convoys negotiated right of passage and bypassed broken and mired vehicles.

Yet despite the challenges, the arrayed IDF elements managed to secure enough of a passageway to allow the self-propelled rafts to reach the crossing site. Still unsure about the situation and worrying about stranding precious armor with the paratroopers on the far embankment if the other, more durable bridging systems failed to arrive, the Southern Command, after bitter arguments with Sharon over whether to focus on reducing the enemy positions along his route or expanding the foothold, permitted the transfer of approximately twenty tanks of the 421st Armored Brigade across the canal.²¹ This fateful move, which allowed the 143rd Armored Division to expand the bridgehead into a more durable lodgment and commence the critical disintegration of enemy air defense networks—even as the Egyptians discovered the crossing and began shelling the Yard with artillery and aircraft fires—proved a turning point in the war and set conditions for the IDF to seize the strategic initiative with a breakout behind the Egyptian lines.

Disintegration of the Defense

Thus far in the war the IDF had failed to achieve the dynamic, multidomain cooperation between ground and aerial forces that had characterized its striking success in the Six Day War. For example, when an attack by F-4 Phantoms against Syrian missile sites in the Golan on October 7 resulted in only one SA-6 battery destroyed at the cost of six aircraft—called “the most important defeat in the history of the IAF” by air power historian Mark Clodfelter—the once dominant air service recoiled and was forced to accept a more limited role in the conflict even as Israeli ground forces suffered debilitating losses.²² While the IAF would prevent enemy air strikes against critical Israeli infrastructure, safeguard the massive American airlift of vital resupply that included seventy-six replacement fighter

²¹ Ibid., 173–174; Ezoz, “The Crossing Challenge,” 483.

²² Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York: Free Press, 1989), 73.

aircraft, and learn from early tactical mistakes, the conditional success came at a previously unimaginable cost of 103 fighters and bombers destroyed in three weeks of combat.²³

In contrast with the air war, the Israeli Navy, built around a sophisticated missile boat profile, enjoyed greater success along the Mediterranean coast. While IDF naval forces would not impact events in the land contest nearly as decisively as the IAF, they nevertheless provided important contributions to the ground campaign by defeating the small Syrian fleet at the Battle of Latakia off the Syrian coast on October 6, and then shattering the more capable Egyptian Navy near the Suez Canal at the Battle of Baltim two days later. This was the first conflict in history where both fleets wielded ship-to-ship missiles with electronic countermeasures, and the resulting sea control, though localized, allowed the IDF to blockade adversary ports, deny seaborne resupply of Egyptian ground forces that had crossed over the canal, attack naval assets and spoil reinforcement attacks in the Red Sea, and perhaps most importantly, ensure safe passageway for critical American resupply convoys.²⁴

With IDF air and naval forces each fighting limited campaigns, the IDF ground forces realized that they would have to create an opening in the Egyptian missile shield in order to restore a multidomain approach. This requirement set the stage for a pivotal moment in the war: the 143rd Armored Division's destruction of a cluster of enemy air defense positions at the very center of the Egyptian line on October 16. This occurred when the 421st Armored Brigade's advanced guard, while in direct radio coordination with the chief of the IAF, raided proximate SAMS and ADA batteries while clearing adjacent command-and-control, radar, and logistical elements.²⁵ The arrival of an Israeli 175-millimeter cannon battalion likewise suppressed elements farther out. The resulting disruption, even as Sadat led a premature victory parade in Cairo, created a critical vector for Israeli aircraft to begin providing air support and interdicting enemy reserves.

²³ Joseph Doyle, *The Yom Kippur War and the Shaping of the United States Air Force* (Maxwell AFB: Air University Press, 2019), 4, 6.

²⁴ Chaim Herzog, *The War of Atonement, October 1973* (Boston: Little, Brown and Company, 1975), 263–269.

²⁵ *Ibid.*, 238.

Soon realizing the peril of the situation, Sadat, over the protests of his field commanders, ordered a massive counterattack the next day by elements of the 2nd and 3rd Armies on the east bank of the canal that aimed to converge in the middle and sever the Israeli bridgehead. The attacks resulted in a dramatic IDF victory when the 162nd Armored Division, then preparing to cross the canal with three armored brigades, first repelled the 21st Armored Division to the north and then pivoted south to counter the Egyptian main effort—the vaunted 25th Independent Armored Brigade with its cutting-edge T-62 tanks. Utilizing textbook gunnery tactics and coordinated air strikes, the Israeli forces destroyed the advancing brigade in a devastating ambush while sustaining minimal losses. In contrast, the Egyptian Army's loss of more than one hundred tanks withered its offensive potential while sapping morale across its shocked formations.²⁶

Events began to move quickly for the IDF after the tank battles of October 17 reduced the near-side threat to the crossing. Having finally installed the modular pontoon bridge to allow more rapid movement across the canal, Sharon, who continued to acerbically debate priorities with a worried Southern Command, divided his forces between defeating the stubborn Egyptian defenses at the Chinese Farm and expanding the bridgehead to clear additional SAMS and create a narrow, yet growing, window of opportunity for IAF interdiction. The 421st Armored Brigade, though logistically constrained, then repelled a hasty Egyptian armored counterattack against the far-side lodgment. When Adan's 162nd Armored Division regrouped and moved across the canal—despite persistent Egyptian artillery fires that damaged bridge sections, wounded and killed engineers, and tumbled a dozen Israeli tanks into the water—conditions were finally set for a breakout behind enemy lines.

The fracturing of the Egyptian Army's air defense network at the center of the canal defensive line caused panic in Cairo. Seeking to cauterize the wound, the Egyptian Air Force desperately launched a massive air campaign to push back the IAF beginning on October 18. Executing 2,500 sorties across eighteen major air battles, the Egyptian pilots engaged their enemies in an intensity of air-to-air combat not seen since the Second World War.

²⁶ Gawrych, *1973 Arab-Israeli War*, 56–57.

However, despite the manifest bravery, the Egyptian Air Force, left vulnerable by the retraction of key SA-6 systems away from the canal penetration to protect strategic centers, suffered over 150 aircraft losses over the next week as it succumbed to superior Israeli tactics and weaponry. The growing IAF dominance of the skies, during which it lost only fifteen planes, catalyzed a reinforcing spiral where IDF ground and aerial forces cooperated to create asymmetric problems for increasingly disintegrated and dislocated Egyptian defenders west of the canal.²⁷

Operational Exploitation in Egypt

With elements of two armored divisions massing on the west bank of the canal, the IDF moved on October 18 and 19 to exploit the disarray of the Egyptian Army with a decisive invasion of Africa. The 162nd Armored Division, as the Southern Command main effort, maneuvered south to begin the isolation of the 3rd Army—now becoming trapped in its entrenchments along the east bank as the IAF targeted its tactical bridges. With the arrival of the massive roller bridge at the crossing point, additional elements of Sharon's 143rd Armored Division and a third force, the reconstituted 252nd Armored Division, poured across the canal to expand the breakout. While Sharon hoped to isolate the 2nd Army with a drive north of the crossing site against the city of Ismailia, the 252nd, under the command of Kalman Magen, planned to support Adan in the southwest by maneuvering its armored brigades along his right flank. Regardless of direction, the elimination of SAMS and sustained rate of movement remained the attacking forces' top priorities.²⁸

In the north, the battered 143rd Armored Division encountered stubborn resistance approximately four miles north of the crossing point as it assaulted a strong Egyptian position along the southern outskirts of Ismailia. Seeking to learn from past mistakes, Israeli combined-arms teams applied new tactics to oust the defenders from their trenches and strongpoints along the agricultural barrier. By October 22, after several days of tough fighting, Sharon's forces had mostly cleared the northern sector of SAMS and ADA but

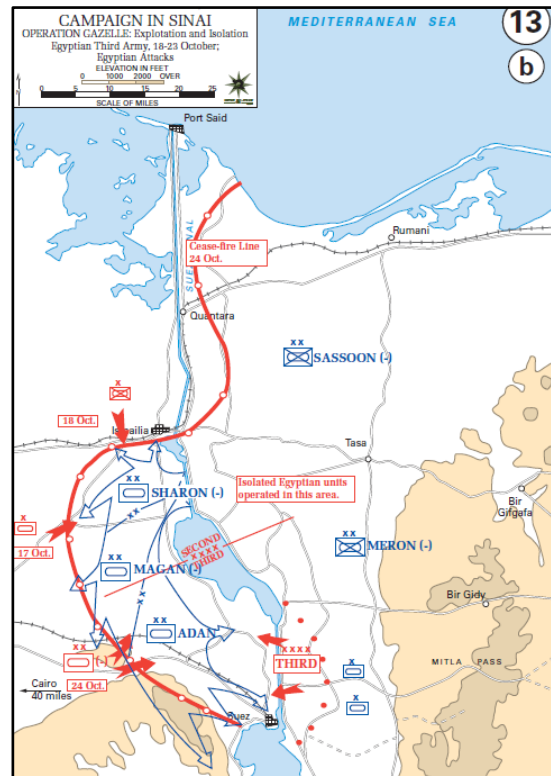
²⁷ Clarence Olschner, "The Air Superiority Battle in the Middle East, 1967–1973" (Masters Thesis, US Army Command and General Staff College, 1978), 65–66.

²⁸ Gawrych, *1973 Arab-Israeli War*, 60.

proved unable to seize Ismailia to complete the isolation of the 2nd Army. However, despite the truncated breakout, the northern advance ensured that IDF forces maneuvering to the south could enjoy secure lines of communication without fear of a counterattack in their rear. Additionally, Sharon's men managed to repel Egyptian fire support observers beyond visual range of the bridgehead, which had endured bombing and artillery strikes that had resulted in high casualties among the IDF engineers and logisticians.²⁹

While the Israelis planned and executed the breakout in Egypt, their invasion of Syria had experienced unexpected difficulties that threatened to distract from the southern effort.

Seeking to relieve pressure on Damascus and regain initiative in the north, an Arab coalition that included Iraq's newly arrived 3rd and 6th Armored Divisions, Jordan's elite 40th Armored Brigade, and a Saudi Arabian contingent had reinforced the Syrian Army to launch a combined counteroffensive from the southeast.³⁰ However, exploiting lack of coordination across the Arab elements, the Israelis first trapped and shattered a major attack by the Iraqis on October 13 and then turned back an unsupported Jordanian assault while fixing the remaining Iraqi forces three days later. Though the Israelis were caught by surprise, they destroyed more than 120 enemy tanks and managed to stabilize the Golan front.³¹ More importantly, the successful defense in the north allowed Jerusalem to



Map 3. Operation Stouthearted Men (Gazelle), Isolation of Egyptian Third Army

²⁹ Jacob Even and Simcha Maoz, *At the Decisive Point in the Sinai: Generalship in the Yom Kippur War* (Lexington: University of Kentucky Press, 2017), 220–223, 239.

³⁰ Dupuy, *Elusive Victory*, 467–468, 533.

³¹ Herzog, *War of Atonement*, 141–143.

maintain the Suez crossing as its strategic priority for strained resources during a critical phase of the war.

In the south, even as stalemate developed in Syria, the breakout in Egypt continued apace as the IAF targeted the tactical bridges of the 2nd and 3rd Armies up and down the canal in order to increase their isolation. With Sharon's 143rd Armored Division halting just short of Ismailia, the 162nd Armored Division, under Adan, had continued south toward Suez City. Maneuvering past infantry strongpoints, the Israelis assaulted Egyptian defenses at the fortified Tsach crossroads and, at the request of the IAF, eliminated proximate SAMS to allow better close air support. Next, IDF forces seized the Fayid Airfield to serve as forward air base while Adan's command attacked further south into the Geneifa Hills to clear missiles from the high ground. Moving west of the Bitter Lake, they also overran the Egyptian artillery brigade responsible for much of the damage to the bridges. Farther west, Magen's 252nd Armored Division protected the IDF right flank as it completed the envelopment of the 3rd Army despite intermittent ceasefire agreements.³²

On October 24, after storming through chaotic Egyptian resistance and clearing another SAMS cluster, Adan's exhausted division finally arrived at Suez City. Seeking to attain an additional political prize before the expected cessation of hostilities, the general ordered infantry and tank columns, with little preparation, to move in and seize the largely abandoned city. However, this attack would prove very different from previous engagements; the tired and worn formations came under withering RPG, machine-gun, and sniper fire from determined Egyptian resistance among the complex urban terrain, leaving scattered groups of Israeli soldiers to fight their way back to friendly lines. The stunning loss of eighty-eight Israeli soldiers, with another 120 wounded and twenty-eight armored vehicles destroyed in the debacle, would catalyze postwar controversy over the disaster and leave a black mark on Adan's reputation.³³

³² Ibid., 242–243.

³³ Avraham Adan, *On the Banks of the Suez: An Israeli General's Personal Account of the Yom Kippur War* (Novato: Presidio Press, 1980), 422; John Spencer and Jayson Geroux, Urban Warfare Project Case Study Series: Case Study #4—Suez City, *Modern War Institute*, January 13, 2022.

Despite the disaster in Suez, Magen's 252nd Armored Division maneuvered past Adan's 162nd Division and around the slopes of Mount Ataka to finally reach the Adabiya port on the coast of the Gulf of Suez. This attack completed the isolation of the 3rd Army as the last ceasefire took hold up and down the canal zone. From an Israeli perspective, the completion of the breakout, though leaving the 2nd Army with intact lines and the besieged 3rd Army short of surrendering, left Jerusalem in a commanding position to negotiate terms with enemies, north and south, and with both its American and the Arab coalition's Soviet benefactors. While the overall war ended without a definitive victory and peace came at a heavy price, the IDF's gamble preserved the State of Israel in the face of potential catastrophe. Starting with an audacious penetration, unfolding to disintegrate the enemy air defense network, and ending with deep maneuver, the IDF had finally ended the war.³⁴

Insights for MDO

The Israeli counteroffensive in the last stages of the 1973 Arab-Israeli War, though occurring under different context and conditions than those that characterize today's operational environment, holds potential insights for the US Army as it adopts and refines the its multidomain operations doctrine for the twenty-first century. In that regard, the Army's doctrinal tenets of operations—agility, convergence, endurance, and depth—can provide a useful analytical frame to better understand the causes of IDF success, and failure, as Israeli commanders struggled to integrate land, air, and to a lesser extent, maritime efforts across a highly lethal environment. As argued in the 2022 publication of the Army's capstone doctrinal manual, FM 3-0, *Operations*, its forces can employ these fundamentals to “improve their prospects of success without dictating how exactly to solve a tactical or operational problem.”³⁵ In that sense, the tenets can serve to produce a better understanding of how historical insights can inspire ideas—as opposed to providing replicable solutions—to operational and strategic dilemmas that are defining modern warfare.

³⁴ Abraham Rabinovich, *The Yom Kipper War: the Epic Encounter that Transformed the Middle East* (New York: Schocken Books, 2004), 498.

³⁵ HQDA, Field Manual 3-0: *Operations*, 3-2.

The first tenet, agility, proved essential for allowing Israeli forces to respond to unforeseen problems and create new opportunities in a dynamic and unpredictable combat environment. In the space of just two days, the IDF Southern Command, after recovering from devastating losses and severe setbacks, had to rapidly posture, redirect, and task organize its armored divisions to initially counter Arab initiative and then seize it back for the canal penetration. While Sharon's 143rd Armored Division had to execute a complicated scheme of maneuver that included feints, fixing attacks, simultaneous bridge escorts, sequenced crossings, and far-side raids, Adan's 162nd Armored Division likewise had to repeatedly change task and orientation, assist at the Chinese Farm, enable traffic control, defeat the Egyptian counterattacks of October 17, and finally reconstitute with exceptional rapidity to follow Sharon's forces across the canal and lead the high-risk breakout.³⁶

As seen in recent conflicts in the Caucasus and Eastern Europe, the wars of today require similar agility due to familiar challenges: increased standoff lethality, debilitating attrition, restrictive terrain, challenging logistics, and increasing inability to maneuver unobserved. Exemplified by the "tank graveyards" in Nagorno-Karabakh and Ukraine, these impediments will require Army forces to, as doctrinally described, employ superior "speed of recognition, decision making, and movement"—just as the IDF did in the face of a highly effective Egyptian integrated defense—to control and manipulate tempo across various domains in order to maintain or recapture initiative.³⁷ This focus on agility, often requiring asymmetric advantages that stem from organizational, tactical, doctrinal, and cultural reforms as much as technological innovations, remains as essential for achieving success against sophisticated adversaries in the contemporary environment as it was for the IDF on the charred battlefields of 1973.

The tenet of convergence, which has emerged as central to the MDO concept, was likewise a critical requirement for Israeli forces following the disasters of their initial counterattacks on the Sinai and Golan fronts. Responding to shattered assumptions about their ability to converge efforts between maneuvering armor and attacking aircraft, the

³⁶ Gawrych, *1973 Arab-Israeli War*, 56–60.

³⁷ HQDA, *Field Manual 3-0: Operations*, 3-3.

Israelis were forced by the missile-saturated battlefield into novel adaptation, employing ground forces assaulted to open, as required by MDO, “windows of opportunity” for intervening air forces to further disintegrate enemy air defense networks and provide reciprocal close air support.³⁸ As seen in the pivotal moment of the counteroffensive, the 143rd Armored Division’s advance tanks initiated this process by immediately attacking nearby SAMS and ADA after crossing the canal, as opposed to waiting to mass forces, which catalyzed a systemic unravelling of the Egyptian order of battle across its rear area by continuous Israeli air-ground assaults.³⁹

Similar to agility, the imperative to converge multidomain efforts, as an evolution in joint warfare, remains critical to achieving success on modern battlefields. This was demonstrated during the 2022 Battle of Kyiv in the Russia-Ukraine War, when the seemingly outmatched defenders contested both the air and ground domains with standoff weaponry and localized counterattacks to stymie the Russian offensive and compel a desultory withdrawal from that sector. The invaders’ inability to integrate attacks across air, ground, and naval elements—in addition to gross combined-arms malpractice and faulty theater logistics—allowed the Ukrainian Army to disintegrate advancing Russian elements with anti-aircraft and antiarmor strikes that repelled the offensive in detail.⁴⁰ The resulting contrast between the IDF at the Suez Canal and the Russian Army in Ukraine, despite a half century of separation, illustrates the consequences of failing to synchronize and coordinate joint efforts.

The third tenet, endurance, likewise reflects a critical facet of modern warfare that can either enhance or debilitate combat performance. For the IDF in 1973, the requirement to rapidly reconstitute the 252nd, 162nd, and 143rd Armored Divisions in the Sinai—which had cumulatively lost more than three hundred tanks during three days of fighting—meant that any transition to a future counteroffensive was predicated on institutional capacity to integrate replacement soldiers, rebuild broken formations, repair and receive

³⁸ Ibid., 3–2.

³⁹ Herzog, *War of Atonement*, 238.

⁴⁰ Seth Jones, “Russia’s Ill-Fated Invasion of Ukraine: Lessons of Modern Warfare,” Center for Strategic & International Studies, June 1, 2022.

new armored vehicles, and psychologically prepare stunned Israeli soldiers and leaders to once again assault the deadly Egyptian defense. Simultaneously, as the Yom Kippur War proved to be an extraordinarily high-consumption conflict, the IDF had to innovate ways to accelerate resupply of tank ammunition and fuel to continuously engaged commands in order to prevent culmination during some of the largest armor battles of the twentieth century.⁴¹

This imperative to cultivate operational endurance remains foundational to expeditionary landpower in the present environment. While the American success at enabling armored offensives into Iraq in 1991 and 2003 with advanced theater sustainment, though far from perfect, illustrates the requirement, the Russian debacles with resourcing large-scale fire and maneuver in Ukraine conversely underscores the same lesson. In what emerged as an attritional, high-consumption artillery conflict, both the Ukrainian and Russian Armies struggled to reconstitute pulverized formations and to protect sustainment networks from increasingly effective drone and long-range fires strikes.⁴² Again magnifying the challenge faced by the IDF in 1973, the timeless mandate for effective theater logistics, which the Swiss war theorist Antoine-Henri Jomini called “the art of moving armies,” continues to define success and failure in modern campaigns.⁴³

The fourth and final tenet, depth, pertains to the critical requirement to project power and extend operational reach into deep spaces. For the Israeli counteroffensive in 1973, the success of the operation rested entirely upon the IDF’s ability to exploit the precarious penetration by enabling the gap crossing over the canal with redundant bridging assets. Even as Egyptian artillery and air strikes damaged equipment and killed and wounded engineers, the sequencing of crossing systems over a critical seventy-two-hour window prevented the destruction of the initial IDF lodgment and ensured that the follow-on exploitation divisions were able to rapidly cross and execute passage of lines into the breakout phase.⁴⁴ The resulting maneuver of Israeli air-ground teams deep into enemy

⁴¹ Gawrych, *1973 Arab-Israeli War*, 40, 52.

⁴² Seth Jones, “Russia’s Ill-Fated Invasion of Ukraine: Lessons of Modern Warfare,” Center for Strategic & International Studies, June 1, 2022.

⁴³ Baron de Jomini, *The Art of War* (Westport: Greenwood Press, 1962), 62.

⁴⁴ Ezoz, *Crossing Suez*, 284–287, 314–316, 322–325.

rear areas then unfolded within Cairo's decision cycle and created unsolvable dilemmas for the paralyzed Egyptian national leadership.

Like the other tenets, the benefits of creating operational depth at an adversary's expense remains a critical factor. This includes leveraging technological advances to unleash deep attacks that “disrupt, desynchronize, and defeat the enemy's operational scheme”, as the Army seeks to do.⁴⁵ With the proliferation of standoff weaponry and ubiquitous surveillance, critical gap-crossing actions during offensive campaigns have become increasingly expensive and problematic. As repeatedly illustrated in the Russia-Ukraine War, the failure to negotiate river barriers in places such as the Donbas and Kherson has complicated, and occasionally stymied, attempts to maneuver. Similar to the costly failures of the initial IDF counterattacks in 1973, this inability to execute gap crossings prevented the extension of Russian operational reach into Ukrainian rear areas and contributed to indecisive battle outcomes.⁴⁶

However, despite the ultimate success of the Israeli counteroffensive and its associated insights, it should not be inferred that the IDF made no mistakes or did not narrowly avoid defeat. Moving past the epic disasters of the initial Israeli counterattacks on October 7 and 8 and the setbacks in the Golan, the crossing of the canal took several days longer than planned and was undermined by acrimonious bickering between Sharon and his superiors in both the Southern Command and the General Staff headquarters. Worse, the blundering of 143rd Armored Division elements into the prepared Egyptian defenses at the Chinese Farm reflected a costly intelligence failure that threatened to prevent the movement of bridging systems to the point of crossing. Conversely, the IDF benefited from Egyptian missteps—best represented by the foolhardy offensive on October 17—that set conditions for penetration at the canal. These mistakes, as much as each side's successes, should inform how forces operate in future campaigns.

⁴⁵ “Army Multi-Domain Transformation: Ready to Win in Competition and Conflict,” Chief of Staff Paper #1 (Washington, D.C.: Headquarters, Department of the Army, March 16, 2021), 8.

⁴⁶ David Johnson, “Would we do better? Hubris and Validation in Ukraine,” *War on the Rocks*, May 31, 2022.

Taking the question further, some may argue that the decisiveness of the Israeli counteroffensive is now irrelevant to the attritional and positional characteristics of modern warfare. However, despite trends in armed conflict that indeed emphasize dynamics reminiscent of the eighteenth-century fortress battlefield—recently seen in places such as Mosul, Nagorno-Karabakh, and the Donbas that featured defensive lethality—the fact remains that militaries are, as stated by the Prussian war theorist Carl von Clausewitz, a “means” by which the “continuation of policy” is achieved.⁴⁷ This implies that, even as the Army must absolutely retain expertise across a range of counterinsurgency and counterterrorism competencies, political directives may compel, even when uncertain, its forces to unleash campaigns that may include concrete requirements to penetrate, disintegrate, and exploit defensive fortifications bristling with antiarmor, antiaircraft, and antiship weaponry. In this case, the option to execute a synchronized, multidomain offensive will remain a potential, if high-risk, option to achieve national policy objectives.

In the final analysis, the improbable Israeli counteroffensive at the Suez Canal in 1973 stands as a fascinating study in desperate combat adaptation and exceptional operational art. As argued by General Donn Starry soon after the seminal conflict, the violent and sudden change of tempo between the Egyptian Army and the IDF, even as hundreds of tanks burned and thousands of men died, revealed that in modern warfare, “the outcome will be decided by factors other than numbers. . . . The side that somehow in the course of battle seizes the initiative and holds it to the end will be the side that wins.”⁴⁸ This means that the same insights concerning combined arms and joint tactics that informed the Army’s implementation of AirLand Battle—including timeless aspects of agility, convergence, endurance, and depth—can have similar, though evolved, influence on the adoption of new ideas and technologies more than four decades later.⁴⁹

⁴⁷ Carl von Clausewitz, *On War*, eds. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 605.

⁴⁸ Don Starry quoted in Rabinovich, *The Yom Kipper War*, 509.

⁴⁹ Trauschweizer, *The Cold War U.S. Army*, 201–205.

Moving forward, the lesson from the 1973 Arab-Israeli War is clear: the US Army must be prepared to achieve strategic objectives even in the most challenging of circumstances. While it is tempting to believe that low-risk options and indirect approaches may always be available, the US Army must be prepared to execute the hardest, most difficult task first: to penetrate enemy defenses, disintegrate enemy air defense networks, and exploit with deep maneuver in order to achieve a more decisive victory—all in expeditionary settings that often favor the defender. The IDF's ability to employ agility, convergence, endurance, and depth across multiple domains was the key to its success. The fact that this posed substantial challenges in the 1973 Arab-Israeli War, which took place primarily in the land and air domains, demonstrates the scale of the imperative to prepare for the modern multidomain battlefield, which will require coordination across these traditional domains as well as in new ones. While no historical analogy is exact, and the character of warfare is ever changing, the Israeli counteroffensive into the Sinai serves as a valuable, if conditional, case study to inform the Army's adoption of multidomain operations as its primary battle concept. Ariel Sharon, the IDF's most controversial general, who forced the crossing, perhaps summarized its enduring value best: "I have been in many battles, but I must tell you this was a real war."⁵⁰

⁵⁰ Charles Moher, "Israeli General Tells How Bridgehead Across the Suez Canal Was Established," *New York Times*, November 12, 1973.

