

On the Employment of Armor

by MAJ Amos C. Fox

The May-June 1998 issue of *ARMOR* ran an article entitled “The Principles of the Employment of Armor.” The article initially supported institutional education post-World War II as it was included in Special Text No. 28 at Fort Knox, KY. The article provides a salient framework by which to understand armor’s purpose and utility on the battlefield.¹ However, very few articles since “The Principles of the Employment of Armor” have captured the essence of armor, especially given the evolution in war between its publication and today.

Real-world considerations necessitate a fresh look at the employment of armor. To be sure, the re-emergence of conventional land warfare in the Caucasus region of Eurasia and Eastern Europe in the preceding decade has raised the need for re-examining the

principles and ethos on which armor is employed.

Tanks played a central role in the Russo-Georgian War of 2008, while mechanized warfare dominated the initial battles of the Russo-Ukrainian War (2014-present). Stepping away from Eurasia, armor continues to factor into the long-burning conflagrations in the Middle East. Most notable, the Iraqi Army’s 9th Armored Division was a foremost figure in the defeat of the Islamic State of Iraq and Syria (ISIS) during Operation Inherent Resolve. The 9th Iraqi Armored Division, along with the Iraqi Security Forces’ Counter-Terrorist Service, did yeoman’s work during the battle for Ramadi (2014) and the siege of Mosul (2016-2017). Furthermore, and much to the chagrin of the U.S. Army and the U.S.-led coalition to defeat ISIS, Iraq’s 9th Armored Division spearheaded the short-lived campaign to quell the Iraqi Kurd independence

movement in October 2017.²

To a lesser degree, armor has played a continuous role in Syria. Russian proxies and private military companies continue to employ armor to assist Syrian president Bashar al-Assad in his incremental reappropriation of territory from rebels and ISIS in Syria. This use of armor, veiled for a good portion of the Syrian civil war and counter-ISIS fight, came to the forefront in February 2018 when U.S. forces struck the Russian proxy, the Wagner Group, killing hundreds of Russians in the process. The strike, a defensive measure taken by U.S. forces to protect a special-operations outpost in the Syrian desert, destroyed multiple Russian tanks, laying bare the fact that armor is not isolated to the undulating terrain of Eastern Europe.³

As a result of life being breathed back into armored warfare, the U.S. Army

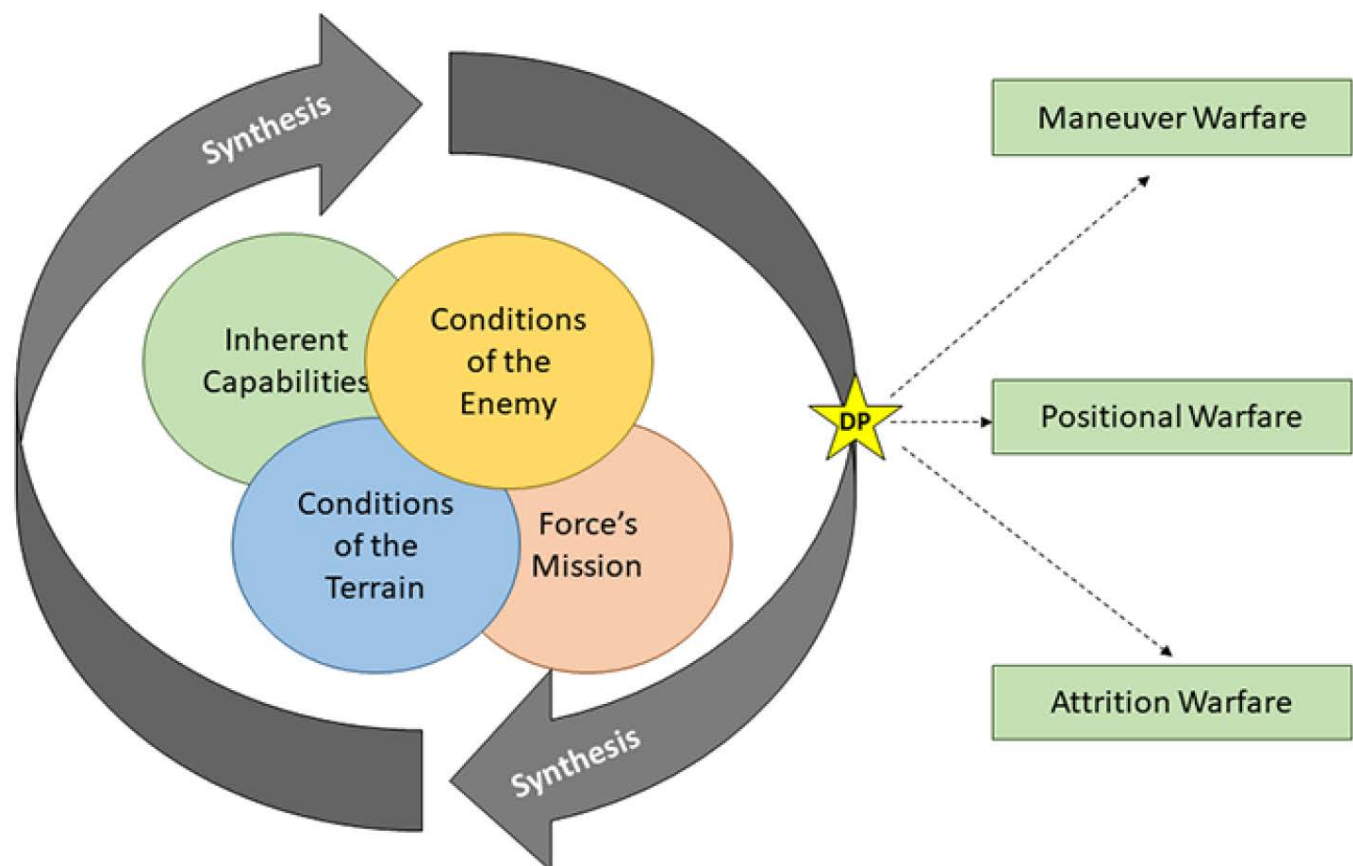


Figure 1. Selection process for the forms of warfare. (Graphic by MAJ Amos C. Fox)

recently decided to increase the number of armored brigade combat teams (ABCTs) by one, raising the number of ABCTs in the Active Component from 11 to 12.⁴ Further, this transition will increase the number of combined-arms battalions, the contemporary heart of the U.S. Army's armored force, by three and will result in one cavalry squadron shifting from lightly armored Stryker reconnaissance-and-security (R&S) formations to armored-cavalry squadrons. While this transition is not expected to be complete until the end of 2020, the need to educate and train armored leaders is critical to this effort.

This article, similar to "The Principles of the Employment of Armor," also provides a set of principles that should govern the employment of armor on the modern battlefield. However, this article is not a facsimile of "Principles." Instead, the values listed here are a modern interpretation of the needs and uses for armor on the battlefield. Moreover, and similar to the original "Principles of the Employment of Armor," this work reminds the reader that the principles listed herein are a mental model, a tool for thinking about employing armor; it is not a "one-size fits all" dictum. To that end, it must be noted that skill, judgment and the situation's conditions play an equally important role in the employment of armor, as does any doctrine, set of principles or theories.

With the scene now set, it is time to review a modern set of thoughts on the employment of armor.

Principle 1

Armored warfare is mobile warfare,

not maneuver warfare. Armored warfare, like any other martial variant, is conditional. The conditions, dominated by the physical environment and one's adversary, do more to dictate the manner in which a force fights than does one's doctrine or institutional preference for warfighting. The resultant effect is that armor must be adept at **thinking** and **fighting** mobile wars of maneuver, positional wars that manipulate the physical environment and an opponent's cognitive bias, as well as bludgeoning wars of attrition.⁵ In all instances, mobility is the substance that lubricates the engine of battle. (Figure 1).

The U.S. Army maintains an arsenal of guns, cannons and anti-tank weapons that outrange the tank. Also, a throng of vehicles exist within the Army's strategic motorpool that provide protection. However, mobility – tactical and operational – is armor's distinctive feature. This feature is brought about by the nexus of firepower, protection and crew mobility. Armor leaders must never forget that the ability to move rapidly – whether from intervisibility line to intervisibility line, or from one operational objective to the next – is where armor's true battlefield value lies. As a result, armor leaders must think in terms of mapsheets and not grid squares. Mobility isn't reserved for offensive action but also provides a distinct advantage in the defense as well. Mobility in the defense provides armor leaders flexibility and options while providing the opportunity to counterpunch. Further, armor leaders must understand that logistics and maintenance are the lifeblood of armor's tactical and operational mobility,

and therefore they mustn't short-shrift functions. Failure to develop a logistics and maintenance mindset will undercut the ability of armor to put its distinctive feature – tactical and operational mobility – into use in combat.

Further, mobile warfare or armored warfare is not maneuver warfare. Moreover, the trope, "maneuver is maneuver," which is often overheard when one is brushing aside the polarity among armor, cavalry or infantry in battle, illustrates a significant depravity in understanding land warfare. Armor embodies mobile warfare, which is significantly different from cavalry operations or infantry-centric land warfare. Armor's protection, mobility and firepower allow it to move faster, farther and with more gusto and panache than its lightly armed, foot-powered counterparts in the infantry. Armor's purpose – employment of mobility to penetrate, exploit and pursue – make it distinctly ill-suited for purpose of the cavalry and vice versa. Armor leaders must appreciate the nuance that resides among the combat arms and be able to factor that into their understanding of how each arm thinks and fights.

Principle 2

Armor dictates the tempo of engagements and battles. By virtue of its tactical and operational mobility, armor dictates tactical tempo. Tempo and speed go hand in hand and complement one another; however, it is important to note that tempo and speed are not the same thing. Tempo is the frequency and amount of activity in a battle or campaign.⁶ Tempo is measured in degrees between high

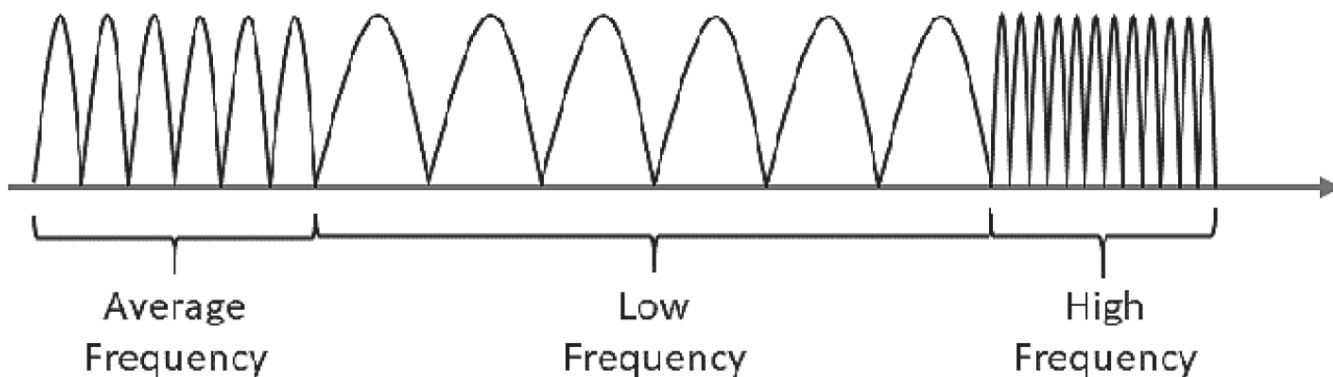


Figure 2. Tempo in battles and campaigns is the frequency and amount of activity in battles and campaigns. (Graphic by MAJ Amos C. Fox)

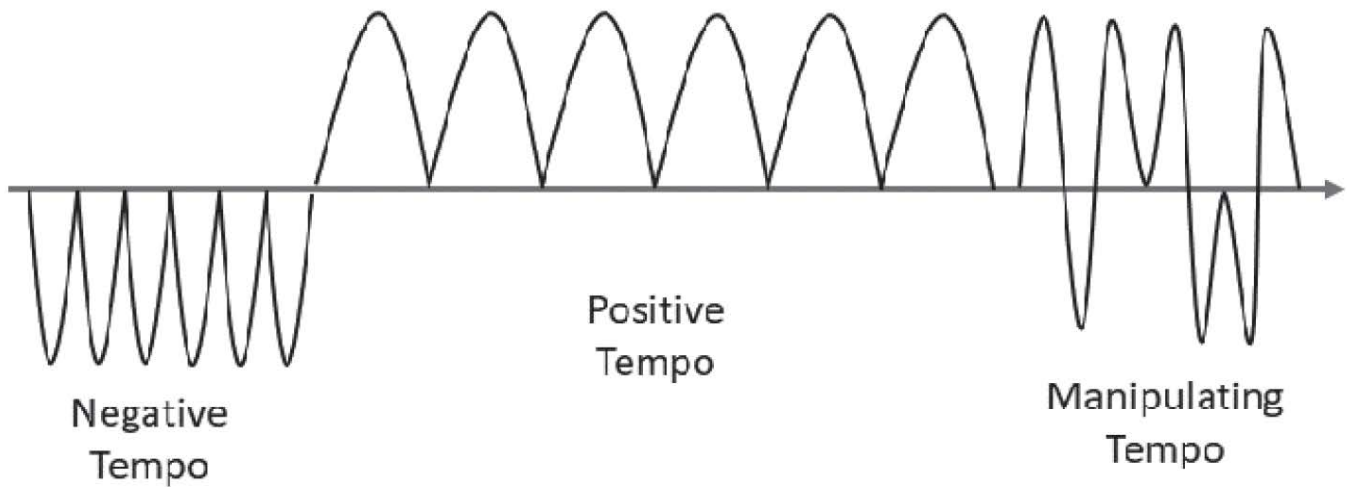


Figure 3. Positive and negative tempo. (Graphic by MAJ Amos C. Fox)

frequency and low frequency (Figure 2). The ability to manipulate the frequency and amount of activity in battle and campaigns is generally a result of sufficient or excess resources and not moving faster than one's opponent.

Furthermore, manipulating tempo in battle is intentional and is commonly the result of adding to existing offensive action or deliberately using defensive, positional, or attrition tactics to slow down one's opponent. At the same time, tempo can be positive or negative. Positive tempo is increasing the frequency of activity, while negative tempo is decreasing the frequency of activity (Figure 3).

Speed, on the other hand, is scalar and binary. Speed is the resultant effect of the amount of time it takes to cover a specific distance. Speed can be useful in manipulating tempo, but speed is not synonymous with tempo. Speed is usually measured in terms such as fast and slow.

The purpose of commanding tempo and manipulating the speed of battle is to keep an opponent on its back foot and reactive. The goal of keeping an opponent off balance is to economize effort and the expenditure of resources in pursuit of one's respective objective.

To command tempo in battle and

campaigns, armor leaders must engage in timely and thorough planning, engaged and decisive leadership, and the positive use of reconnaissance. MG Ernie Harmon wrote an excellent report following World War II's North African Campaign that highlights this point. Harmon states that "[s]peed can be made by rapid decisions, by going from one reconnoitered place to another, by thinking ahead and being prepared with the solution for emergency when it arises, and, above all, by forethought as to how to handle the contingencies of battle when they come up. ... The mark of a well-trained and superior outfit is the deliberate and assured way it goes into battle, checking every

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$



Figure 4. Speed in warfare. (Graphic by MAJ Amos C. Fox)

detail, seeing that everything is set, making provisions for what will probably happen in the immediate future.”⁷

While the conditions have changed, armor’s ability change the tempo of battle – either increasing or decreasing the frequency and speed of action – remains as germane today as it did in the deserts of North African in 1942. In either case, the armor leader’s role in commanding the rhythm of battle is indispensable.

Principle 3

Armor leaders are decisive and involved. The very character of mobile warfare – the ability to devour prodigious swaths of land while bringing combined arms to bear in battle – mandates involved and decisive leadership. To be sure, mobile warfare’s celerity and harmonization of arms requires engaged leadership from the

outset of the planning process. Unwelcome and unneeded are leaders that provide poor guidance, only show for briefs, act as though the plan is that of the staff and not their own, and refuse to make substantive decisions. Leader involvement is pivotal in the planning and operations process because it creates the environment in which formations can move beyond reactive action and instead dictate the sequence and tempo of battle and operations.

To do so, armor leaders must sense the *pace* and *timing* of battle and the ability to feel the *influence of terrain* on tactical action. Involved and decisive leaders then brandish these intangible conditions to empower their formation, and those within their sphere of influence, to “see the other side of the hill,” thus moving into a proactive posture. Many theorists, from Carl von Clausewitz to B.H. Liddell Hart, refer to

these qualities as *fingerspitzengefühl* or *coup d’œil*, and argue that they are the result of genius. While innate mental skill likely plays a role in *fingerspitzengefühl* and *coup d’œil*, what is more important is a leader who cares enough to be involved. Anemic minds and uninvolved or lazy leadership are anathema to the employment of armor. Individuals falling into those categories should be culled from the armored force at the first opportunity, as they are not the type of leader armor needs to thrive on the battlefield.

Principle 4

Armor penetrates, exploits and pursues. Armor’s purpose is not to line up and smash into other armored formations. To be sure, this approach is antithetical to combined-arms operations and violates the tenets of combined-arms warfighting theory.⁸ American

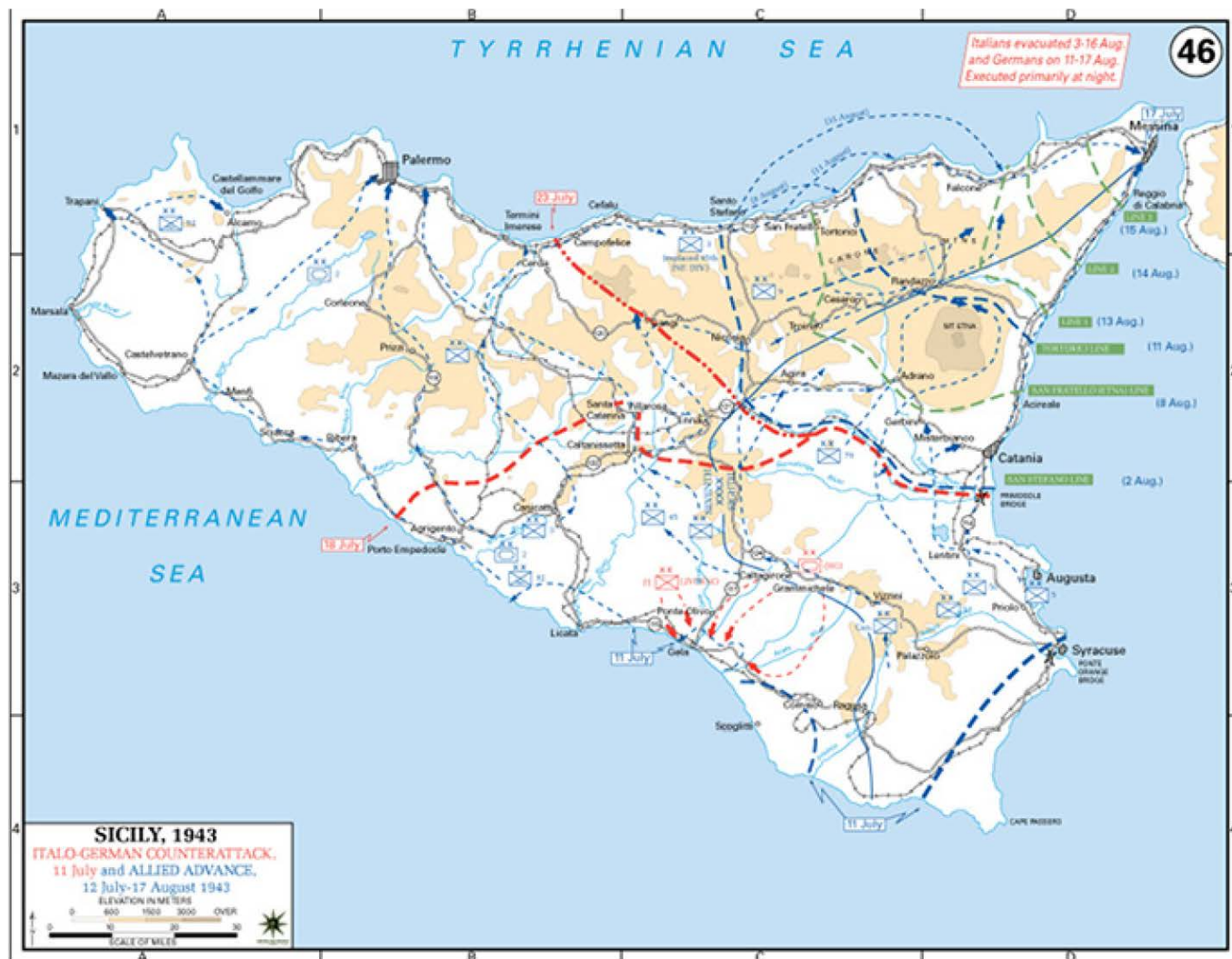


Figure 5. Battle map of the Sicilian Campaign. (Map by U.S. Military Academy Department of History)

tanker LTG George S. Patton Jr. argued that “[t]he primary mission of armored units is the attacking of infantry and artillery. The enemy’s rear is the happy hunting ground for armor. Use every means to get in there.”⁹ Patton’s 7th Army during the Sicilian Campaign provides an instructive example.

The strike to Palermo, like Patton’s other operations on the island, was underwritten by his infantry grabbing hold of the retreating enemy, punching a hole through the enemy’s defenses through the combination of cavalry, artillery and infantry, and then feeding his armor through the resultant gaps. The armor, then carrying the old horse cavalry’s mantle, exploited the gaps by penetrating and pursuing the enemy. On Patton at Palermo, historian Matthew Morton writes, “Marching [100] miles in four days, the drive to Palermo

validated the ‘indispensable role’ of the armored division. ... [Patton] credited his success to a willingness to hold back his tank units until the infantry found the holes in the enemy line through which to send the tanks ‘in large numbers and fast.’”¹⁰ (See Figure 5.) Armor formations must be conditioned – mentally and physically – to penetrate, exploit and pursue. No other formation in the U.S. Army possesses the innate capability to do so, and therefore leaders must develop that ethos within their formations.

Principle 5

Rugged ground cavalry drives armored operations. Ground cavalry activities, oriented on R&S operations, are a proven means for enabling armored warfare. On the other hand, aerial reconnaissance as the primary means of deep strike and R&S operations in

support of mobile land warfare has proven unreliable at best. The most recent and striking example can be found in the shortcomings of 11th Attack Aviation Regiment during the 2003 invasion of Iraq, which saw the regiment’s deep-strike doctrine and aerial reconnaissance foiled by very low-tech Iraqi methods around Baghdad’s southern belt.¹¹ Furthermore, unmanned aerial vehicles and the new AH-64 Apache helicopter-based air-cavalry formations have yet to be proven in mobile land warfare against a peer-competitor.

Until aerial reconnaissance and technocratic surveillance means prove themselves in major combat operations against peer competitors, rugged ground cavalry formations – proven time and again throughout the history of warfare – remain armor’s primary enabler in battle. As a result, tactical

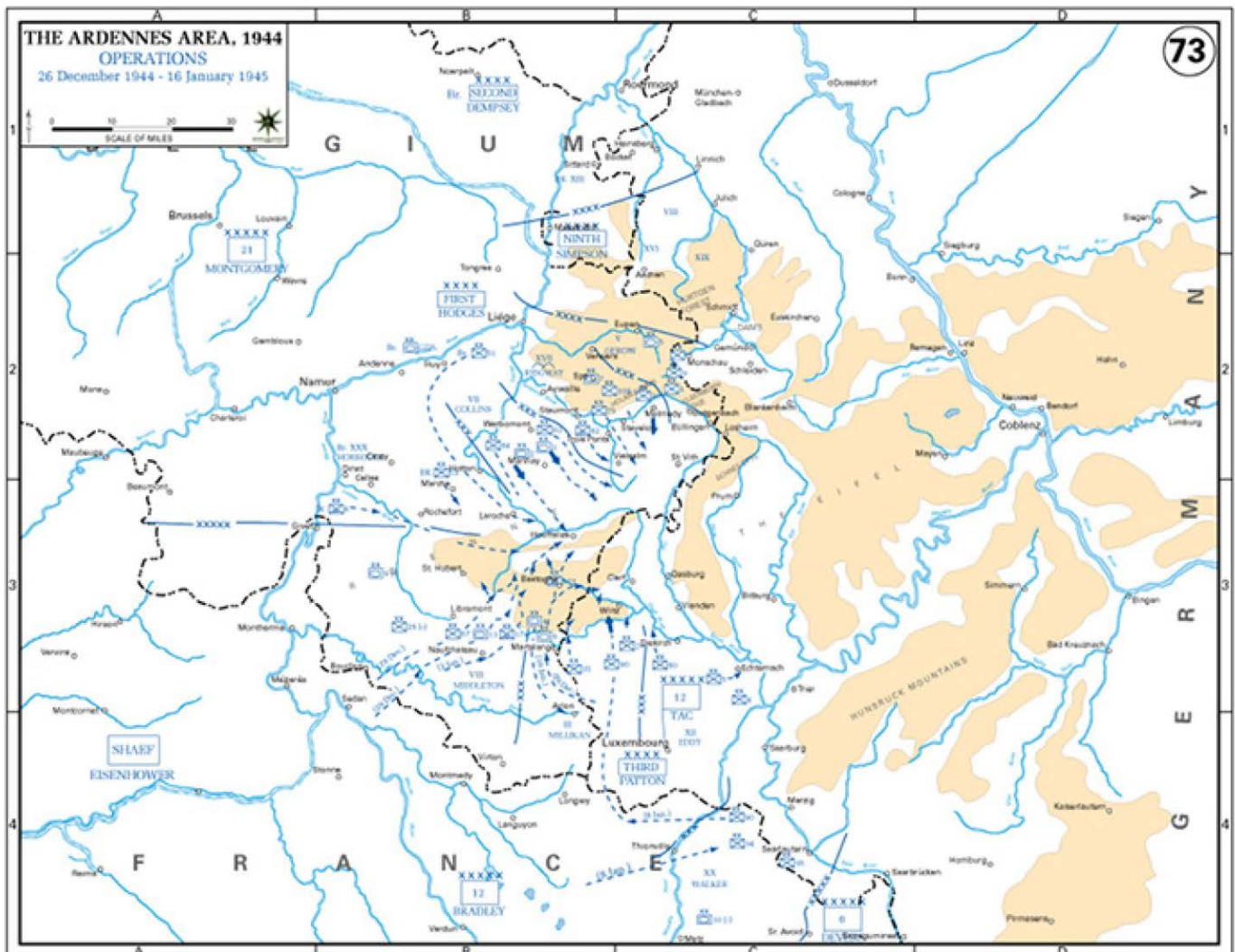


Figure 6. The Ardennes area, 1944. (Map by U.S. Military Academy Department of History)

armor leaders from the division down to the tank crew must master the use of its cavalry and scout formations.

Principle 6

Armor runs the marathon. “Armor runs the marathon” is a metaphor. While armored units are not concerned with physically running 26.2 miles, they must condition themselves for the marathon of battle. Perhaps the apogee of armor running the marathon is found in Patton’s relief of 101st Airborne Division at Bastogne in December 1944. As is well noted, Patton swung his 3rd Army 90 degrees to the north and slammed into the Germans besieging 101st Airborne Division at Bastogne, Belgium. While in the attack, 3rd Army transitioned north and fought for three straight days, closing the distance between it and the town of Bastogne before making contact with the

Germans Dec. 26, 1944. Upon making contact, 4th Armored Division, the spearhead of Patton’s 3rd Army, penetrated the German perimeter at Bastogne, linked up with 101st Airborne Division and fought on for several more days before being able to take a knee and catch its breath.¹² (Figure 6.)

The U.S. 3rd Infantry Division’s three-week odyssey to capture Baghdad in the 2003 invasion of Iraq is a more recent example of armor’s ability to run the marathon. In light of this often-overlooked requirement, armor leaders must focus on developing formations and Soldiers who are mentally and emotionally able to persist in the face of fatigue, hunger and depravity. While infantrymen tend to focus more on the physically element of fitness, armor in battle must be more mentally and emotionally fit to cope with and

overcome the rigors of tempo and long ground movement. (Figure 7.)

Principle 7

Armored units and leaders know how to fight. Data, Digital Training Management System training statistics and “green gum balls” on quarterly training-briefing slides do not measure or articulate an armored unit’s ability to fight. These metrics provide comfort to commanders and leaders in various meetings, yet none of this information gets at the heart of whether or not an armored unit can fight.

Two conditions determine whether or not an armored unit can fight: 1) an armored unit knows how to fight (i.e., possesses the requisite technical and tactical knowledge) and 2) an armored unit is capable of fighting (i.e., possesses the requisite skill or the physical

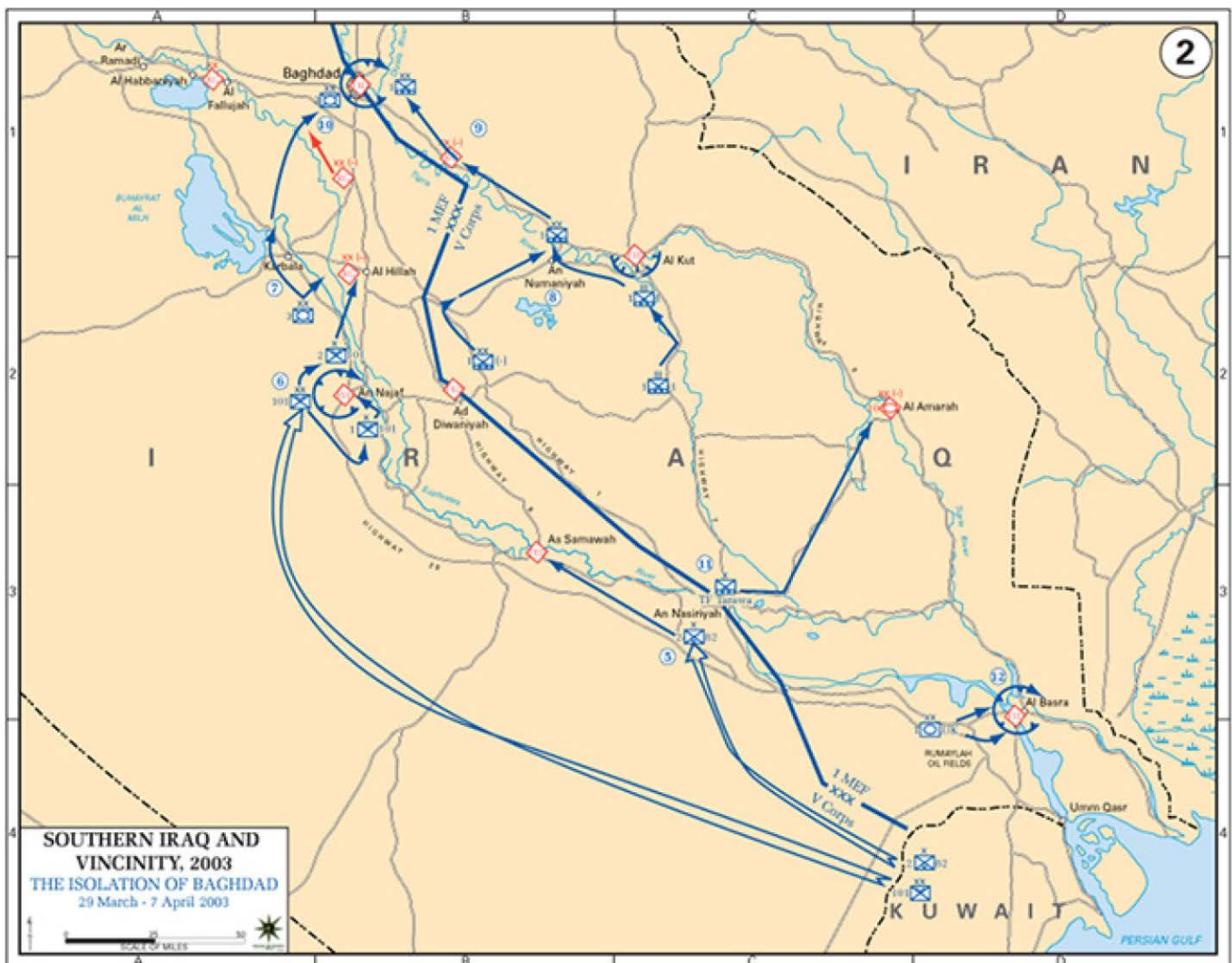


Figure 7. Southern Iraq and vicinity, 2003. (Map by U.S. Military Academy Department of History)

application of the requisite technical and tactical knowledge). Both these conditions are intangible and not easily measured in quantifiable value, but instead are measured through the art of command. Commanders and staffs assess the ability of their unit's capability to effectively engage in battle through first-hand observation while putting their unit through its paces in tough, realistic training.

Further, preparing for battle means stepping beyond the confines of existing doctrine and educating one's formation on the character of war.

Contemporary warfare is dominated by three types of warfare: proxy warfare, positional warfare and attrition warfare. (**Editor's note:** Please see Fox's article, "A Solution Looking for a Problem: Illuminating Misconceptions in Maneuver-Warfare Doctrine," in *ARMOR*'s Fall 2017 edition, <http://www.benning.army.mil/Armor/eARMOR/content/issues/2017/Fall/4Fox17.pdf>.) None of these forms of warfare are addressed in U.S. Army doctrine, which is precariously focused on maneuver warfare. Nevertheless, proxy, positional and attritional environments, or a combination thereof, is where armor will find itself committed for the foreseeable future. Armor leaders must push themselves and their formations to look beyond the cozy confines of thinking and training for how the U.S. Army *wants* to fight and instead think about and train for how it *will* fight. Moreover, armor leaders should liberate themselves from metric-focused parameters for assessing warfighting capability and instead get into the field training and assess their formations.

Principle 8

Armor fights from the hatch. Armored formations are built for unencumbered activity. They are not meant to be tethered, whether digitally or physically, to static command posts (CPs). The notion that armored divisions, in a convention fight against a peer competitor, will have the time to establish an elaborate array of tentage for CPs is fallacious. Further, this point becomes even more striking as one moves down the tactical ladder, from the division to the battalion- and company-level. On a mobile battlefield against peer

competitors, an array of tents does little but invite attack, create requirements that slow down armored operations and disrupt armored formations from fighting in accordance with their *raison d'être*. The battle and campaign are best served when armored formations are unleashed and allowed to wreak havoc against their adversary.

The ongoing Russo-Ukrainian war serves as an instructive example of why armored formations should not be tethered to digitally enhanced, static CPs. In the early morning hours of July 11, 2014, the Ukrainian 24th Mechanized Brigade, 72nd Mechanized Brigade and 79th Armored Brigade were laagered in an assembly area preparing to launch an offensive in the Luhansk oblast.¹³ The purpose of the upcoming operation was to retake lost territory and to defeat Russian and separatist forces in Luhansk. At about 4:30 a.m., the Ukrainians lost the ability to communicate due to Russian cyber and electronic attack. The formations, prostrate and unable to communicate, were then ruthlessly attacked by Russian multiple-launch rockets and run-of-the-mill tube artillery.¹⁴ The attack crippled the assembled Ukrainian brigades.

Reports indicate that the thrust left 30 Ukrainian soldiers dead and another several hundred injured, and destroyed well over two battalions' worth of vehicles and equipment.¹⁵ The Russian strike at Zelenopillya is a cautionary tale about the perils of keeping armor static on the battlefield and being overly reliant on a digital infrastructure. U.S. Army armor, from the platoon to the division, must break from the digital leash and fight from the hatch. To do otherwise risks quick detection and rapid destruction on the modern battlefield.

Principle 9

Armor is a weapon of opportunity. Building on the idea of armor being employed in accordance with its *raison d'être*, armor's mobility makes it uniquely suited to capitalize on windows of tactical and operational opportunity. Writing on the U.S. Army's armored divisions leading into World War II, MG Bruce Magruder wrote that "[t]he armored division is a weapon of

opportunity. Through its speed, firepower and flexibility of maneuver, it is capable of surprising the enemy and attacking him before he is capable of defense."¹⁶

Although Magruder was writing about U.S. armored divisions, the principle transcends the defined echelon and instead applies to the function of armor. Armor exists to exploit temporal or situational windows of opportunity. Armor leaders and their formations must be in tune with the flow of battle and be mentally prepared for rapid repurposing to take advantage of the fleeting prospects of providence.

Conclusion

The previously published "The Principles of the Employment of Armor" set the course for thinking about armor operations upon its initial publication. However, time, an evolving threat environment and technological changes necessitate a fresh look at those principles. Modern armed conflict continues to illustrate that armored warfare isn't going anywhere; it is just adapting to its political, physical and threat environment.

Armor's defining characteristic, tactical and operational mobility, remains just as relevant today as it was when the initial principles were published. Mobility remains armor's baseline, and everything else armor does serves to retain that mobility. That idea – mobility is what sets armor apart from the other combat arms – is what underpins this work and helped generate the updated principles for the employment of armor, which are restated following:

- Principle 1: Armored warfare is mobile warfare, not maneuver warfare;
- Principle 2: Armor dictates the tempo of engagements and battles;
- Principle 3: Armor leaders are decisive and involved;
- Principle 4: Armor penetrates, exploits and pursues;
- Principle 5: Rugged ground cavalry drives armored operations;
- Principle 6: Armor runs the marathon;
- Principle 7: Armored units and leaders know how to fight;
- Principle 8: Armor fights from the

hatch; and

- Principle 9: Armor is a weapon of opportunity.

These principles are not meant to serve as a checklist to drive armor operations. Instead, they are proffered as a mental framework for leaders to think about when framing the employment of armored formations. Seminal armored-warfare theorist Liddell Hart reminds the student of war that “[t]he influence of thought on thought is the most influential factor in history. Yet, being intangible, it is less perceptible than the effects of action and has received far less attention from writers of history.”¹⁷ The principles listed herein are intended to help shape the thought on thought as it relates to the modern employment of armor.

Armor, the combat arm of decision, still holds a special place on the battlefield. Because of this, armor leaders must have a clear understanding of why armor exists and how it should be employed. The principles listed in this article, building on those tendered following World War II, are a place to begin that discussion.

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Notes

¹ “The Principles of the Employment of Armor,” *ARMOR*, May-June 1998.

² Shawn Snow, “U.S. Abrams Tanks Sway the Battle in Kirkuk,” *Army Times*, Oct. 19, 2017; accessed Nov. 18, 2018, <https://www.armytimes.com/flash-points/2017/10/19/us-abrams-tanks-sway-the-battle-in-kirkuk/>.

³ Thomas Gibbons-Neff, “How a Four-Hour Battle Between Russian Mercenaries and U.S. Commandos Unfolded,” *New York Times*, May 24, 2018; accessed Sept. 24, 2018, <https://www.nytimes.com/2018/05/24/world/middleeast/american-commandos-russian-mercenaries-syria.html>.

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⁶ Robert Leonhard, *Fighting by Minute: Time and the Art of War*, Westport, CT: Praeger Publishers, 1994.

⁷ Ernest Harmon, *Notes on Combat Experience During the Tunisian and African Campaigns*.

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¹⁰ Matthew D. Morton, *Men on Iron Ponies*, DeKalb, IL: Northern Illinois University Press, 2009.

¹¹ Micheal R. Gordon and Bernard E. Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq*, New York: Vintage Books, 2006.

¹² Martin Blumenson, *Patton: The Man Behind the Legend, 1885-1945*, New York: William Morrow Books, 1985.

¹³ Amos Fox, *Hybrid Warfare: The 21st Century Russian Way of War*, monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2017, <http://www.dtic.mil/dtic/tr/fulltext/u2/1038987.pdf>.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Bruce Magruder, *The Armored Division*, Officers’ School, 1st Armored Division Conference No.3, Fort Knox, KY, 1941.

¹⁷ B.H. Liddell Hart, *The Ghost of Napoleon*, New Haven, CT: Yale University Press, 1934.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team

ACR – armored-cavalry regiment

CP – command post

ISIS – Islamic State of Iraq and Syria

R&S – reconnaissance and security

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