FORDS against FERRARIS

How the Principles of Simplicity and Mass Can Guide the Army of 2040

by LTC Kyle Trottier

In 1986, GEN Donn Starry spoke at the American Defense Preparedness Association Conference at Fort Knox, Kentucky and discussed how "we remain outnumbered, outranged, and outgunned in new and impressive dimensions from armor to guns to missiles to helicopters to electronic warfare systems."[1] Nearly four decades later the U.S. Army faces similar challenges when considering how to fight outnumbered and win in Large-Scale Combat Operations (LSCO). The U.S. Army can learn from Security Assistance Group – Ukraine (SAG-U) and other NATO partners on what is required to train, sustain, and reconstitute combat power during LSCO. The principle of simplicity, when carefully synchronized, enables the generation of mass. When the U.S. Army develops solutions for the Army of 2040 it must develop simple solutions like a Ford versus exquisite Ferraris that are expensive and take a lot of time to train, sustain and reconstitute.

The novel and innovative application of emerging technology in the Russo-Ukraine War reaffirms the importance of the principles of war to decisions about force design for LSCO. Of the nine principles of war, the Russo-Ukraine War clearly demonstrates the principles of simplicity and mass must guide the decisions of military leaders more than the others due to the unique challenges the U.S. Army will face. As the Russo-Ukraine War completes its second year, the defense and security studies community should assess the conflict and discern relevant implications for future force design decisions. An outcome of this conflict is that military leaders must weigh the continuities of the nature of war versus the present character of warfare, such as how electronic warfare (EW) and the inexpensive first-person viewer (FPV) drones impact decision making for 2024 and beyond. The U.S. Army as an expeditionary-capable, campaign-quality force must be able to deploy globally, win its first battle, fight outnumbered to defeat a near-peer adversary while sustaining and reconstituting combat power.

To win a fight against a near-peer adversary the U.S. needs to mass mobile and lethal combined arms corps to execute multi-domain operations. These corps sized elements need agility to mass and penetrate an enemy defense in depth, then have the endurance to exploit this success across the depth of enemy territory until operational objectives are accomplished. The ability to accomplish this penetration and exploitation is inextricably tied to operational reach and ability of the U.S. Army to sustain and reconstitute combat power.

The principle of simplicity when carefully synchronized enables the generation of mass. In tandem, the ability to have the endurance to sustain the fight for prolonged periods of time and in depth across enemy formations can achieve the lasting effects of a decisive penetration. Endurance should be tied to a simplified strategic logistics from the military industrial base, ensuring strategic mobility, and supporting tactical formations who must transport the various classes of supply. The principles of simplicity and mass enable strategic and tactical mobility by creating commonality of equipment, streamlining manufacturing requirements, reducing operator and mechanic training, and decreasing the amount of supply required to be transported. Division Sustainment Brigades must have the ability to fabricate and repair to reconstitute forces in austere environments. Theaters should develop plans for sustaining and regenerating combat power while the Army must reduce the burden of policies to enable experimentation and transformation. The principles of simplicity and mass are inter-connected and should be viewed together to develop solutions to generate, sustain, and re-constitute combat power during LSCO.

Continuities of War

According to Field Manual (FM) 3-0, *Operations*, the characteristics of warfare are "affected by changes in technology, national policy, operational concepts, public opinion, and other factors."[2] An example of the impact of the characteristics of warfare on how nations fight occurred between WWI and the Gulf War. During WWI, the machine gun caused massed formations to entrench themselves into defensive positions. Later, during WWII tanks and aircraft overcame the machinegun to again enable offensive operations. In the 1973 Arab Israeli War, anti-tank guided missiles (ATGM) and air defense missiles made offensive maneuver costly for armored formations and air forces. Over the course of roughly

Principles of War
Maneuver: Place the enemy in a position of disadvantage through the flexible application of combat power.
Objective: Direct every military operation toward a clearly defined, decisive, and attainable goal.
Offensive: Seize, retain, and exploit the initiative.
Surprise: Strike at a time and place or in a manner for which the enemy is unprepared.
Economy of Force: Expend minimum-essential combat power on secondary efforts to allocate the maximum possible combat power on the main effort.
Mass: Concentrate the effects of combat power at the most advantageous place and time to produce decisive results.
Unity of Command: Ensure unity of effort under one responsible commander for every objective.
Security: Prevent the enemy from achieving surprise or acquiring unexpected advantage.
Simplicity: Increase the probability that plans can be executed as intended by preparing clear, uncomplicated plans and orders.

Figure 1. Principles of War[5] *(U.S. Army Graphic)*

fifty-five years, the character of war shifted from defense having the advantage in WWI to speed and offense having the advantage in WWII back to defensive advantages during the 1973 Arab Israeli War. Learning from 1973 the U.S. Army adopted Airland Battle to regain offensive abilities to fight outnumbered and win.

The Doctrine, Organization, Training, Material, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) changes of Airland Battle provided the U.S. a solution to penetrate and exploit the defense of an enemy force with quantitative and qualitative advantages as proven during Operation Desert Storm (ODS). Today the Russo-Ukrainian conflict is dominated by strong defenses with complex obstacles 20 km in depth, a massed Russian Army of 670,000 Soldiers enabled with EW and a variety of drones providing constant surveillance and the potential for lethal strikes across the battlefield.[3]

Unlike the continuous change in the characteristics of warfare, the nature of war remains constant. FM 3-0, *Operations*, defines the nature of war as "1) fought to achieve a political purpose, 2) a human endeavor, 3) inherently chaotic and uncertain."[4] The principles of war are not a rubric for battlefield success, but instead summarize the essential elements of the nature of war so that tactical, operational, and strategic leaders may better understand, visualize, describe, direct, lead and assess forces in war. FM 3-0 defines the nine principles of war (see Figure 1). These definitions are narrow, and assessment of the Russo-Ukraine War demands an expansion of these definitions to guide military decision making.

The current definition of mass focuses on the tactical application of combat power. To produce the mass required to win the first battle, fight outnumbered and win, sustain and reconstitute forces during a LSCO the U.S. Army must simplify and synchronize DOTMLPF-P solutions. Policies and processes to rapidly increase manufacturing of arms and munitions, recruit, house and train Soldiers, transport and sustain forces globally must be simplified and synchronized to achieve the greatest efficiency possible. Synchronization is essential, for example to field the next generation squad weapon (NGSW) the Army must field the new weapon, the new optic, new ammunition, and develop new ranges capable of supporting the munition. To generate mass these elements must be simplified and synchronized.

Once again, simplicity enables the generation of mass as SAG-U and NATO forces have experienced with training, sustaining, and regenerating Ukrainian forces over the past two years. Again, the doctrinal definition of simplicity is too narrow focusing on the conduct of the orders process. As military leaders reflect on the Russo-Ukrainian War and how the U.S. Army will be able to generate the combat power required at a particular place and time to achieve political aims, U.S. Army leaders must simplify and synchronize DOTMLPF-P solutions. To generate and sustain combat power simple material solutions must be adopted for future equipment. To the greatest extent possible vehicles and equipment must have commonality of parts. This simplifies training requirements for operators and mechanics while

streamlining strategic and tactical logistics requirements. Russia has proven to be more resilient than western military leaders thought, thus the U.S. Army must plan for reconstitution of forces to regenerate mass.[6] Simplifying doctrine, training, material solutions, and policy enables the U.S. Army to increase the agility, endurance, and depth of combined arms corps during the conduct of multi-domain operations.

The principles of simplicity and mass are key to enabling the U.S. Army to fight outnumbered and win when contested in all domains. In 1988, GEN Starry spoke at the Center for Strategic and International Studies stating, "The combination of armor/ anti-armor, indirect fire, air defense, mine/ countermine, and electronic warfare capabilities clearly favors the other side (Russia). We are behind, have been for some time, and are getting further behind at an alarming rate."[7] GEN Starry was instrumental in driving change within the "Army of Excellence" that would field new equipment, doctrine, and training. He passionately spoke about being able to fight outnumbered and win. When discussing Operation Desert Storm he stated, "The part of the force that brought the war to a successful termination was a corps-sized combined arms mechanized force employed with lightning speed and devastating lethality. In summary, the equipment, organization, and training designed to support AirLand Battle doctrine was an unqualified success."[8] For Operation Desert Storm, the U.S. Army, as part of a Unified Operation was able to mass multiple U.S. and coalition divisions and conduct a tactical operation to achieve national political aims through the delivery of effects from multiple domains.

Over the last 30 years adversary nations have learned to contest the ability of the U.S. to generate the required mass of combat power to achieve military objectives. Military leaders must now develop simple DOTMLPF-P solutions to achieve mass in a contested environment. While technology has changed, the U.S. Army faces similar challenges GEN Starry did decades ago. The U.S. Army must be able to win its first battle, it must be able to fight outnumbered and win, and it must sustain and re-generate combat power against a near-peer adversary. The first step is to use the principles of simplicity and mass to enable global operations.

Simplicity and Mass to Enable Global Operations

ADP 3-0 describes the U.S. Army's requirement to have expeditionary capability and campaign quality forces.[9] As the predominance of the U.S Army capabilities are permanently stationed within the United States the ability to promptly deploy world-wide and sustain operations as long as necessary to obtain success are essential to achieving national interests.[10] When considering global operations, the U.S. Army must balance strategic mobility against tactical mobility. Strategic mobility is the balance to develop equipment that maximizes sea, air, and rail modes of transportation to deploy formations worldwide. Tactical mobility is the ability to develop equipment with maximum maneuverability across varying geographic terrain. Together these factors impact operational reach, which is "the distance and duration across which a force can successfully employ military capabilities."[11] In short, the ability of the U.S. Army to deploy, fight, sustain, and repair on a global scale determines the options available to commanders. General Eisenhower was presented with just these sorts of options on the eve of the allied invasion of Europe in WWII.

A historical example of strategic mobility is the 1944 invasion of Normandy France, Operation Overlord. On D-Day, June 6th 1944, 156,000 Soldiers crossed the English Channel and by the end of June 1944, 850,000 Soldiers and 150,000 vehicles surged into France.[12] As one of the primary vehicles for Allied Forces, 50,000 M4 Sherman Tanks were produced by US auto manufactures to support war efforts in both the Pacific and European theaters.[13] The tactical mobility of the Sherman enabled Allied forces to fight across the varied terrain of Europe from the Mediterranean to Berlin and a multitude of islands across the Pacific.

The M4 Sherman found the middle ground to enable both strategic and tactical mobility to deliver the mass required to defeat Axis forces. The simplicity of the Sherman platform generated greater tactical options for operational commanders. The Sherman chassis was used for the M7 105mm self-propelled howitzer, the M12 155mm self-propelled howitzer, the M30 Cargo Carrier, the M32 and M74 Tank Recovery Vehicle, the T34 Calliope multiple launch rocket system, M4A3R5 Flame Thrower, M4 dozer, M4 Mobile Assault Bridge, Mine Roller and Mine Flail variants.[14]

This one vehicle chassis enabled infantry, armor, artillery, engineer, and other formations. Simplicity of design across warfighting functions enabled simplicity of logistics. The U.S. industrial base could focus production on a specific set of parts able to be used across multiple platforms. The simplicity of logistics allowed operational commanders to generate mass and enable tactical success through the ability to seize, retain, and exploit the initiative to gain a position of relative advantage. The ability to mass a combined arms formation at a decisive point created favorable force ratios and enabled victory – this was strategic, tactical, and logistical simplicity at its best.

The M4 Sherman was akin to a Ford, a simple solution able to be produced in mass and easy to sustain globally. In contrast was the German Tiger Tank, analogous to a Ferrari. The Tiger IV tank for example was superior in every way with thicker armor, a more powerful engine, more capable suspension, and larger cannon with higher penetrating velocity. But only 1,350 Tiger IVs were produced.[15] While the Tiger IV was a superior tank, the German Army lacked a simple solution they could sustain to generate sufficient mass to achieve decisive battlefield results.

Figure 2. Soldiers from 4th Squadron, 9th U.S. Cavalry Regiment "Dark Horse," 2nd Armored Brigade Combat Team, 1st Cavalry Division, drive through a low-water crossing in the AMPV after completing field testing on Fort Cavasas, Texas September 2024. *(Photo by MAJ Carson Petry)*

FM 3-0 discusses the requirement for reconstitution by stating, "commanders must plan for the possibility of heavy losses to personnel, supplies, and equipment. Even with continuous and effective sustainment support, units may become combat ineffective due to enemy actions. Commanders at all levels must be prepared to conduct reconstitution efforts to return ineffective units to a level of effectiveness that allows the reconstituted unit to perform future missions."[16] As of 27 May 2024 Russia has lost, 502,304 Troops, 7,671 armored vehicles, 12,981 howitzers, 14,818 vehicles, 457 planes, 326 helicopters, and 27 ships. U.S. military leaders must develop and synchronize DOTMLPF-P solutions to win its first battle, fight outnumbered and win, sustain and re-constitute combat power.

For the armored brigade combat team (ABCT), the Next Generation Combat Vehicle Cross Functional Team (NGCV CFT) is focused on fielding the Armored Multi-Purpose Vehicle (AMPV) to replace the M113 family of vehicles (FOVs), field the XM-30 Optionally Manned Fighting Vehicle (OMFV), then develop the Next-Generation Main Battle Tank (NGMBT), given the M1E3 designation.[17] For each of these platforms there is a focus on improving survivability and force protection, increasing mobility and transportability, increasing lethality, reducing logistical impacts, and providing growth for future capabilities.[18] These vehicles are being built to fight and win in an operating environment with the constant threat of observation and strike by drones. The defeat of FPV drones will be integrated into these future platforms. While not a single platform conducting multiple functions like the M4 Sherman, these platforms are striving to have increased commonality of parts through a Modular Open Systems Approach (MOSA).

The AMPV will replace 2,800 of the 60-year-old M113 family of vehicles (general purpose, mortar carrier, medical treatment, medical evacuation, and mission command). The AMPV shares a common powertrain and suspension with the M109A7 Paladin and M2A4 Bradley.[19] The XM-30 OMFV will be more lethal, more survivable, and have lower sustainment requirements than the M2A4 Bradley. Rheinmetall and General Dynamics have produced XM-30 prototypes for testing and evaluation.[20] The NGMBT will incorporate the best of existing technology while having the ability to fight and win in the contemporary environment full of drones and EW.[21] Program Executive Office for Ground Combat Systems (PEO-GCS) is using open systems software and hardware architecture.[22] This means as the U.S. Army modernizes its combat platforms, they will share common parts and digital systems and be able to upgrade and repair rapidly.

Message to the Army Team

'This We'll Defend' has been our Army's motto since the Revolutionary War. It reminds us that our purpose is timeless and clear: *to fight and win our Nation's wars.* When our Army hits the dirt, America means business. Our teammates don't want to fight without us, and our enemies are wise to fear us. We are not a Pacific Army or a Europe Army. We are not Brigade-centric or Division-centric. *We are a global force that fights when called upon at the scale required.*

To do that, we must stay grounded, and dedicate our energy in four focus areas:

Warfighting

We must *ruthlessly prioritize* time and resources towards building lethality and cohesive teams. Soldiers need to shoot, move, communicate, and be experts in their craft. They also need to bond together through tough, realistic training.

Commanders and leaders, *we trust you to figure out what you should not be doing*. Communicate that up so the leaders above you can underwrite risk. Let us know where you need our help.

Delivering Ready Combat Formations

We must be ready to get our formations to the fight and sustain them there. Leaders at installations will have the appropriate authorities to build readiness. Ft. Wainwright is different than Ft. Liberty; *local leaders know best how to translate strategic intent into solutions at the local level*.

And at the heart of our Army's readiness is people. Our warfighters and their families will have access to timely information and enabling resources. Our strength is our Soldiers and families, and we are committed to taking care of both.

Continuous Transformation

We will transform *iteratively and continuously* to become leaner, more mobile, lower signature and, most importantly, *more lethal*. We will integrate technology faster, pushing new, cost- effective technologies into our operational units as soon as they are useful. We want our tactical units to innovate, test ideas, fail fast, and adapt. The best ideas often come from the bottom up.

Strengthening the Profession

To maintain America's trust, *we must serve with competence and character*. Foundational to that is *enforcing standards* and ensuring accountability, which ensure discipline in our formations. When it comes down to a close fight in the mud, character, grit, and discipline make the difference. Additionally, we all must own our profession – share ideas, engage in debate, and learn together.

When you are downrange and you hear a call sign come over the net, a mental picture comes to mind... When the American Army comes over the net, we want our teammates to know that the best, most disciplined land force in the world has arrived. *All of us contribute to that reputation*.

We are proud of this team. When we are called, we will answer... and we will win. ***This We'll Defend!***

Michael R. Weimer Sergeant Major of the Army	Randy A. George General, United States Army Chief of Staff	Christine E. Wormuth Secretary of the Army

Figure 3. Message to the Army team from Sergeant Major of the Army Michael R. Weimer, Chief of Staff of the Army General Randy George, and Secretary of the Army Christine E. Wormuth signed Oct 27, 2023.

The Modular Open Systems Approach not only allows for commonality, but also rapid upgrading and modernization into the future.[23] By designing MOSA systems the U.S. Army will create combat vehicles with the greatest amount of commonality possible. This will decrease tactical sustainment requirements as battalions will carry fewer varieties of parts in their on-hand stockage. The simplification of parts required to be carried by tactical formations increases the agility of units and improves their ability to mass at a decisive point to gain a position of advantage. The MOSA simplifies the demands on military industrial partners as many companies can manufacture parts common to multiple systems. Which, in-turn, allows the U.S. Army to generate mass strategically. The principles of simplicity and mass are interconnected and must be viewed together to develop solutions to generate, sustain, and re-constitute combat power.

Simplicity and Mass to enable Multi-Domain Operations.

In the July-August 1975 edition of ***ARMOR*** magazine, GEN Starry said, "winning the first battle(s) is critical, and they will have to be won by U.S. Army forces fighting outnumbered. The secret to winning is not in numbers. Mobility provides the means to mass in the time and place arriving at a reasonably matched force ratio, say three, four, or six to one."[24] Thus, if Russia does have 670,000 troops committed to the war in Ukraine, it does not mean the U.S. must have over 2 million forces to achieve a 3:1 force ratio to win the war. Instead, as GEN Starry states, the ability to mass combat power at a decisive point creates the favorable force ratios required to achieve a position of relative advantage where joint and coalition partners can penetrate and exploit.

Lethality and firepower are inter-related elements which enable the massed formation to deliver combat power to achieve tactical success. Lethality is the capability and capacity to destroy, and firepower is the primary source of lethality.[25] According to FM 3-0, firepower facilitates maneuver by suppressing enemy fires and disrupting or preventing the movement of enemy forces.[26] The ability for a combined arms formation to use tactical mobility and devastating lethality to gain a position of relative advantage preserves combat power and creates opportunities to exploit success. If a friendly formation can conduct such operations throughout the depth of the enemy formation without reaching a point of culmination, then tactical victory can be achieved.

The 1973 Arab Israeli War, the 2017 Siege of Mosul, the 2020 Second Nagorno-Karabakh War, and the ongoing Russo-Ukraine War all highlight the lethality of the modern battlefield. In 1973, the Israeli Defense Force (IDF) lost 800 armored vehicles and 100 attack aircraft in three weeks.[27] The 162nd Division alone lost 83 of 183 tanks on 8 October 1973.[28] To overcome the Arab defense a joint and combined arms approach was required.

The initial Israeli armored assault lacked combined arms integration and tanks drove into anti-armor ambushes with anti-tank guided missiles (ATGMs). Similarly, attack aircraft flew into integrated air defense networks of surface to air missiles (SAMs). As the IDF incorporated infantry to clear enemy battle positions armored forces could penetrate the defense with mobility and lethality. The ground corps exploited this success destroying SAM sites creating clear air corridors for the air force. The complementary effects of joint and combined arms operations enabled freedom of maneuver across multiple domains.

During the Russo-Ukraine War, Russian EW systems have proven capable of neutralizing U.S. precision strike capabilities.[29] Simultaneously, the M2A2 Bradley Fighting Vehicle has proven to be one of the most capable platforms on the battlefield in Ukraine. Its combination of mobility and lethality has resulted in devastating destruction to Russian formations including the highly publicized destruction of a T-90 main battle tank with the 25mm Bushmaster auto cannon.[30] Another high visibility event is the destruction of a T-80 main battle tank with a TOW missile from over a mile away.[31] With an abundance of confirmed kills on the battlefield the mobility and lethality of the Bradley demonstrates the capabilities required to defeat a near-peer army in depth and enable multi-domain operations.

If the U.S. were engaged in LSCO against a near-peer military, the U.S. must plan for destruction at scales similar to 1973 and Ukraine. The U.S. needs to have mobile and lethal combined arms corps to enable multi-domain operations. U.S. Army combined arms corps will be essential to the destruction of SAM and EW sites to enable surface to ground and air to ground strike capabilities throughout the depth of the enemy formation. These strikes will be required to destroy drone launch and recovery sites and control stations, which will further protect the ground force from future enemy drone strikes.

The M2A2 Bradley represents the impact of simplicity and mass required to enable MDO. With the U.S. donating over 200 M2A2 Bradley Fighting Vehicles to Ukraine the Bradley has made a tremendous impact for the Ukrainian Armed Forces (UAF).[32] The simplicity of the vehicles' design has enabled the UAF to repair battle-damaged vehicles and return reconstituted forces to the fight.[33] The simplicity of the vehicle makes it easy to operate and easy to train new Soldiers how to employ and maintain. The Bradley's small size generates mass through numbers facilitating efficient strategic mobility while having superior tactical mobility on the battlefield. Together, the simplicity of the vehicle enables rapid generation of combat power which provides endurance to the operating force. The success of the M2A2 in Ukraine validates the MOSA approach and commonality of parts across the AMPV, XM-30, and M1E3[34]. The principles of simplicity and mass have been proven on the battlefield with the M2A2 during ODS and

the Russo-Ukraine War and must inform U.S. Army modernization for LSCO. Winning ground wars requires Fords not Ferraris.

Simplicity and Mass to Be Combat Ready, Transform, and Strengthen the Profession

In October 2023, Army senior leadership delivered a Tri-Signed with priorities for the Army. It stated, "we are a global force that fights when called upon at the scale required."[36] Chief of Staff of the Army (CSA) GEN Randy George further set four priorities for the U.S. Army as Warfighting, Delivering Ready Combat Formations, Continuous Transformation, and Strengthening the Profession.[35] CSA George challenges the Total Army enterprise to build lethal cohesive teams with leaders of character and competence that enforce standards and take care of Soldiers and their families and become leaner, more mobile, and more lethal through rapid iteration. As Army leaders analyze contemporary problems and generate solutions in-line with the CSAs priorities, the principles of simplicity and mass viewed through the DOTMLPF-P framework can guide how the U.S. Army generates the combat power required to win.

To build warfighting ability CSA George challenges Army leaders to cut out unnecessary activities to build lethal and cohesive teams. Dr. Leonard Wong and Dr. Stephen Gerras discussed these challenges in their 2015 article "Lying to Ourselves: Dishonesty in the Army Profession" where they present the challenges leaders at echelon face to meet mandatory requirements as well as those related to operations and readiness.[36] Simplicity is required to meet the CSA's intent. Policy changes must be made to reduce or modify mandatory requirements or remove as many activities as possible that detract from building lethal and cohesive teams. For example, the Army Sponsorship Program. It takes a lot of time and organizational energy for company leaders to sponsor every Soldier arriving to their unit. Why is it mandatory for units to sponsor every single Soldier coming to the unit? Does it make sense to sponsor an E-6 making their third or fourth permanent change of station (PCS)? Sponsorship makes sense for initial term Soldiers and Outside the Continental United States (OCONUS) moves where there are many different rules and regulations. But, for Continental United States (CONUS) moves, non-initial term Soldiers should opt in to the sponsorship program if they feel they need assistance instead of making it mandatory for every Soldier.

The CSA wants iterative experimentation and transformation of forces as well as a reduction in requirements on units. To achieve this policy changes will be required to allow for divisions to rapidly procure or locally produce and test experimental equipment. Islamic State (ISIS) flew armed small drones in Iraq in 2014 but the US Army still lacks a similar capability. Divisions could 3D print drones and use a simple application to get Federal Aviation Administration (FAA) clearance and fly within the local training area to allow Soldiers to maneuver with aerial support. Until these policy changes can be made the U.S. Army will continue to be decades behind our adversaries who rapidly iterate without bureaucratic barriers.

Reconstitution of forces is an area Army leaders should focus now to prepare theaters for future conflicts. Army leaders can identify facilities to house, feed, and train forces on a rotational basis and design reconstitution plans based upon the capacities of these locations. Then, decisions weighting risk can be made regarding what level of training is acceptable for a reconstituted force and in what amount of time. Failure to develop theater reconstitution plans now will delay future battlefield endurance, agility, and depth of operations. For example, as Ukrainian battalions were attritted they would be pulled off the front line and veteran Soldiers would serve as the core cadre of companies and replacement Soldiers are then added to re-constitute the battalion. From there units would complete squad, platoon, and company situational training exercises (STX) and live fire exercises (LFX) then returned to the front line.

Repair and fabrication capabilities must become a major focus for Army transformation to build combat ready forces. Although the Israeli 162nd Division lost 83/183 tanks on October 8th, 1973 battle damage and repair capabilities reconstituted dozens of tanks within a week. Facilities like Maintenance Activity Vilseck (MAV) at Rose Barracks Germany and Material Support Command-Korea (MSCK) at Camp Carroll, Korea must be present within Division Sustainment Brigades (DSB). Facilities like the MAV and MSCK can repair faults to wiring harnesses and line replaceable units (LRUs) and fabricate hundreds of different parts. These facilities represent the ability to reduce demands on the military industrial base, repair equipment more rapidly and at a cost savings to the government. The ability to repair and fabricate close to operational units simplifies the ability to sustain and re-generate units which enables commanders to mass combat power in the most efficient manner possible.

Conclusion

Napoleon Bonaparte is often attributed to the saying that, "amateurs discuss tactics, but professionals discuss logistics." The tactics of the Russo-Ukraine War like EW and FPV drones make headlines, but the lessons for U.S. Army leaders to learn centers around logistics. To fight and win against a near-peer adversary the U.S. Army must:

1. Develop products with the greatest amount of part commonality possible.

2. Every Division Sustainment Brigade must have the ability to repair and fabricate components in a remote location without civilian contractors and battalions must be proficient in battle damage and repair procedures

to regenerate combat power.

3. Theaters must develop plans to reconstitute combat power.

4. Policy changes are required to enable increased experimentation by allowing units to rapidly procure or fabricate solutions.

The Army needs to develop solutions akin to a Ford. Simple solutions able to generate rapidly and easy to sustain globally. From WWII to 1973 to the present this same formula has proven successful. Exquisite technological solutions go against the principles of war and the history of mechanized warfare does not favor Ferraris like the German Tiger Tank. As Army leaders reflect on lessons from the Russo-Ukraine War they should synchronize simple solutions across DOTMLPF-P to enable the generation of mass as this will empower corps with agility, endurance, and depth to conduct multi-domain operations and win.

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Notes

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