

From the Great War to Ukraine: Adapting to the Changing Character of War

by

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Introduction

Modern militaries face the continual challenge of preparing for the next war, which requires deciding what capabilities to field, in what quantity, and how the force will employ them. Getting this wrong could lead to deterrence failure and greater casualties.

Prior to the start of the First World War, the United States Army was woefully unsuited for the realities of modern war that were about to be unleashed in Europe. Once the war was underway, the neutral United States failed to adapt and prepare. The U.S. Army squandered another opportunity as it trained vast numbers of troops after the US declaration of war in 1917. To invoke Carl von Clausewitz, the Army did not keep up with the changing character of war, which stemmed from the impact of modern artillery, machine guns, aircraft, chemical weapons, and tanks.¹ A detailed look at US military reports from the 1914 outbreak of the Great War showcases how Washington could have avoided many thousands of casualties in 1917 and 1918.

Contemporary discussion of the rapidly changing character of war tends to invoke the war in Ukraine. As Russia's invasion continues unabated, the character of the war, as well as doctrine and weaponry, are evolving rapidly. Innovation is the norm as both sides strive for advantage by adapting cutting-edge technology, off-the-shelf parts, or unprecedented tactics. Techniques and doctrine have gone through several major changes. As explored below, Western

analysts continually fret over how the United States and NATO forces would fare in a future conflict featuring many of the “gamechangers” now regularly making headlines. This debate, often focusing on the advent of “drone warfare,” focuses on the extent to which Western militaries should adapt, and whether they are adapting fast enough.

In this context, an examination of World War One reports from the front can illuminate how U.S. force planners should navigate the challenge of equipping and training forces for modern conflict. Overall, the north star for U.S. defense planners in today’s evolving security landscape should be to maintain a healthy dose of humility regarding how Western forces would fare amid the sort of bleeding-edge technology and tactics that have been on display in Ukraine and Iran, while at the same time avoiding the urge to over-optimize for drone-centric campaigning at the expense of key traditional platforms. Advanced aircraft, long-range strike systems, as well as space-enabled domain awareness and targeting will continue to be the center of gravity for the highest-consequence conflict scenarios in the near- to mid-term. Critically, the U.S. military must improve its ability to adapt on the fly, once the conflict has begun, because contemporary conflicts have demonstrated major changes over the span of mere weeks. If the U.S. military prepares for drone-based warfare in its current manifestation, it will remain perpetually behind the curve.

Dispatches from the Front

From 1914 until 1917, the neutral United States failed to make even limited but prudent force planning changes, such as improvements to US Army doctrine. This failure was not the result of insufficient information on the horrors of the Great War. Press reporting on the war was widely available, and U.S. leadership also had access to *military* details on the devastating nature of modern combat as well.

Among the most important sources of information in the early months of the war were the official reports of the U.S. military attaché in Paris, Major Spencer Cosby. An exploration of his dispatches

reveals an officer who was dutifully warning Washington of how unprepared US forces were for modern combat. As the world watches the drone revolution play out in Russia's war against Ukraine, Cosby's numerous reports from the early days of the Great War highlight what can happen when a nation fails to make even basic preparations for the evolving character of war, despite having plenty of information and warning.

From 1914 to early 1917, Cosby sent from Paris regular and detailed reports to Washington on everything from the overall progress of the war to major battles, leadership changes, tactics, trench design, casualties, societal changes, and even the minute details of uniforms and wire cutters. This trove of information has been used by a few historians but has not been described in detail. Michael Neiberg studied Cosby's reports and observed that scholars previously believed the United States did not even have a military attaché in Paris in 1914, until approximately 2011 when the original papers were found in private hands.² Richard Faulkner, in his work on the American Expeditionary Force (AEF), notes that numerous military reports were coming in from Europe and cites Cosby's reports as proof that some in the U.S. Army were closely following military developments.³ Besides this relatively recent scholarship, one enterprising war college student managed to find Cosby's reports reproduced at the National Archives in 1999.⁴

The Spencer Cosby Collection is now stored at the U.S. Army Heritage and Education Center in Carlisle Barracks, Pennsylvania, and spans hundreds of pages. This article will explore his major observations on the changing character of war in the crucial first months of the conflict.⁵

Born in 1867 and eventually attaining the rank of colonel, Cosby was well-suited to report on the Great War, perhaps by an accident of history. Graduating first in his class at West Point in 1891, he became an officer in the U.S. Army Corps of Engineers: a specialty that became critical for observing the advent of trench warfare. Cosby was also well connected. He served in several high-profile positions prior to the war,

including as President William Howard Taft's military aide and the Superintendent of Public Buildings and Grounds for Washington, DC. In these roles, he organized the planting of the city's famous cherry trees, donated by Japan.⁶ Cosby was a known quantity to the Woodrow Wilson Administration as well, later serving as aide and interpreter to French General Joseph Joffre on his visit to meet with President Wilson in April 1917.⁷ He was a promising military officer whose star was rising, assigned to one of the most prestigious foreign posts of the era. In the small world of Washington and the War Department of the early 20th Century, Cosby was an authoritative source at the outbreak of the first major European war in decades.

A Barbarous War

Cosby's first war dispatches, starting in late August 1914, note that he and the embassy staff had been extremely busy assisting U.S. citizens fleeing France. By September 7, the advent of aircraft in war was apparent, as he states German planes had flown over Paris each day in the previous three weeks, conducting "bomb throwing" on the city. On September 6, he drove along the outer defenses of Paris. Cosby spoke to retreating French dragoons who showed "not the slightest hint of demoralization." So far, the war may have appeared like many before it, except for the incessant but merely annoying attacks of "aeroplanes."

On September 10, Cosby conducted his first visit to the war zone. He would eventually conduct seven such visits, usually as part of a formal and all-expense-paid French army excursion with other neutral nations' officers.⁸ Cosby had an immediate sense of the war's brutal impacts on civilians. General Joffre hosted Cosby and the other attachés at his chateau headquarters for the Battle of the Marne, intending for them to see the effects of the German invasion and "how they made war." French officers gave Cosby journals found on dead or captured Germans, stating they had shot women and children. Passing an "endless" stream of refugees, Cosby's motorcade moved into areas where "not more than one third of the buildings remained intact." Dead soldiers were seen "in all directions," and Cosby noted

it was far easier to spot the French casualties because “the invisibility of the bluish gray field uniforms of the Germans have given them a great advantage.” Amidst the evidence of looting and wanton destruction, he interviewed civilians who witnessed German troops firing into a “mass of women.” He would later visit the Second Army commander, General Edouard Castelnau, who told him the Germans had used captured French troops as human shields to cover trench digging. Cosby stated, “A war in which such barbarous methods are employed is terrible.”



Figure 1 – On his first battlefield tour, in September 1914, Major Spencer Cosby took this photo and wrote, “Scene along the line...of the fight between the 90th French Infantry and the regiment of the Imperial Guard, which took place just outside of La Fère Champenoise.” His personal vehicle is visible in the background. (Source: US Army Heritage and Education Center, public domain.)

“Like the Sweep of a Mowing Machine”

On September 24, 1914, Cosby wrote the first of many “progress of the war” summary reports. In these notes and future readouts of battlefield trips, he repeatedly pointed out the enormous impact of firepower on the conflict and the ineffectiveness of infantry attack.

This evidence was notably contrary to the prevailing doctrine of infantry attack and bayonet tactics then dominant in the French, American, and other armies.⁹ US pre-war doctrine was meager and outdated, as was that of the other major powers. By the time the United States entered the war in 1917, the AEF would, despite years of Cosby's reports, adopt U.S. General John Pershing's nebulous "open warfare" concept that favored infantry attack and marksmanship.¹⁰ Cosby had warned that both sides were making "extensive" use of heavy artillery and employing aircraft to reconnoiter targets. Steady shelling then followed to "sweep gradually but effectively all the ground occupied by the hostile troops." Regarding machine guns, he stated, "[t]hey are everywhere in evidence, are well handled, and their effect is most destructive." The Germans were likewise in awe of French artillery.

Interlocutors repeatedly told Cosby that the war involved "enormous losses" and featured "mass carnage." The true indication of the changed character of the Great War came on October 7, 1914, when Cosby enclosed the report of his U.S. embassy colleague Mr. Eric Wood from his visit to the front. Wood marveled that the 17th Regiment of French infantry charged across an open field, with no cover, losing half of its men to eight German guns and some infantry. He saw one instance of 60 dead French infantrymen on the field, describing them as "monstrously conspicuous" in their red uniform pants. Recognizing the overwhelming lethality of artillery in this war, Wood stated that all were killed by shellfire and added that "the dead lay in one straight row like the sweep of a mowing machine." Elsewhere, a German attack was repulsed with "frightful losses" to such an extent that "the Prussian Imperial Guard does not exist today," judging by the heaps of dead and wounded. Specifically, he witnessed 600 German casualties in a field of about six acres.



Figure 2 – Cosby wrote, “The French infantrymen who took refuge behind a stack of grain on a field across which bullets swept like a wind. The bullets of course circulated through the pile of straw without any hindrance - with fatal effect to the three men.” Note the shattered rifle stock. (Source: US Army Heritage and Education Center, public domain.)

Overall, observers were quickly concluding that this was no ordinary war. Artillery, machine guns, and the already obsolete “mitrailleuse” volley guns were utterly devastating to the point that traditional forces and tactics were obsolete. A French captain expressed to Wood that “this war had proved that infantry could not exist in the presence of such weapons.” In numerous cases, French attacks were “literally annihilated.” Cosby also reported the French officer as stating, “The infantry of both sides are singularly ineffective, showing no good qualities except to get itself killed.” He noted that both sides actually showed “contempt” for the opposing infantry.

Beyond the lethality of warfare, Cosby gave extensive technical and operational detail on what he considered the most salient technologies of this war: artillery, aircraft for reconnaissance and artillery spotting, automobiles, and, of course, trench warfare. On October 10, 1914, he wrote, “[t]wo distinguishing new features of the war over previous ones are use of aeroplanes and automobiles.” He

later added, “[s]ecrecy as to the main bodies of troops had been rendered impossible by the aeroplane.” Throughout his time in France, Cosby would visit numerous airbases and interview pilots, reporting on tactics, ideal aircraft characteristics, mounted guns, bombs, and even aerial darts. His efforts also included witnessing early French countermeasures: camouflage, deception, anti-aircraft, and air-to-air combat techniques.

Regarding automobiles, Cosby marveled at the rapid mechanization of forces to move whole divisions, supplies, and the wounded. In October 1914 he wrote, “[e]normous use is made of automobiles of all kinds for the most varied purposes. Too much stress cannot be laid upon the important part played by motor vehicles.” Here he urged Washington to understand that

... [t]he importance, the absolute necessity, is manifest of making now, in time of peace, a careful study of plans for the use of motor cars, trucks, and tractors by our army in time of war.

These factors notwithstanding, Cosby still stressed the dominance of artillery. “The overwhelming importance of the role played by artillery cannot be too often or too strongly insisted upon,” he wrote in March 1915. In November 1914 he reported that one French officer “believes that artillery is responsible for the greater part of the losses to the enemy during the war ... he would not be surprised if it went up to 75%.” Another French interlocutor warned of flaws in pre-war assumptions on artillery ammunition consumption rates: “The use of artillery ammunition has been so much greater than anyone had ever anticipated.”

From Cosby’s report dated October 29, 1914, it was apparent to him that trench warfare had fully set in. Positions remained “unchanged” over the past month and each side was now “strongly entrenched.” Reports over the following months repeat that there had been no appreciable change in the lines, that attacks were “vain,” and losses “enormous.”

In February 1915, a Cosby report gives an indication that the French had now formally recognized the overlapping challenges of trench warfare. A Tenth Army officer stated, “It was impossible to make a serious attempt to break through ... even if it were possible for the infantry to advance, the artillery could not follow.” Cosby summarizes another French officer in saying that if a machine gun “is given anything of a field of fire and a fair chance in numbers, he does not believe it can be taken by an infantry charge.” When the Germans attack, the French officer stated that, “The first line may sometimes by surprise reach its objective, but if a second line attempts to follow, it is mowed down by our artillery.”

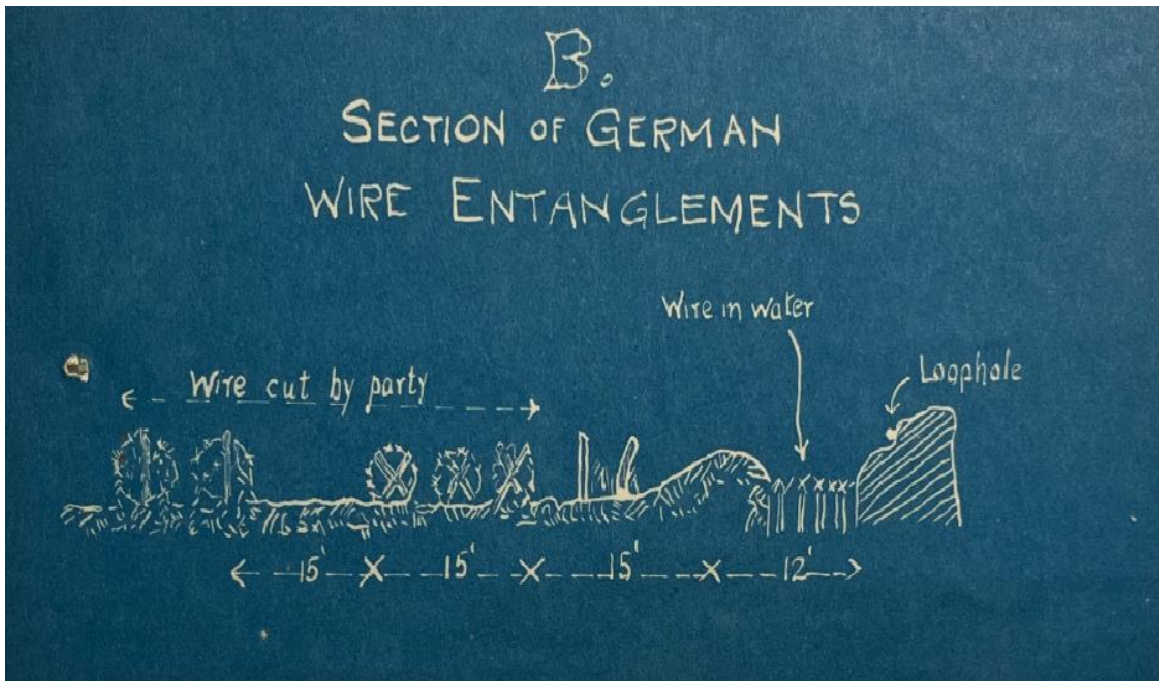


Figure 3 – A West Point engineer by training, Cosby sent back numerous technical drawings of trenches and defenses, detailing the relevant measurements, construction techniques, materials, camouflage, and drainage methods. (Source: US Army Heritage and Education Center, public domain.)

In March 1915, Cosby described the war as “a battle between artillery and engineers,” and wrote that the French told him,

... [t]he French field artillery is so superior to that of our adversary that it is nearly always able to break up the German formations while they are preparing for an attack. On the other hand, German engineers have so well located and designed their trenches and so obstructed the approaches ... that the French attack often fails to reach them. ... The present phase of the war ... is a siege operation on a large scale. Its conditions are likely to be repeated in every future campaign ... therefore these conditions are of interest.

A Timely War College Lecture

In a fitting summation of his war reports, the Spencer Cosby Collection includes his remarks for a presentation entitled “The Changes Brought about by the War in the French Army.” The venue for the speech was the Army War College at Fort McNair, in the present-day National War College’s Roosevelt Hall. The remarks are dated March 3, 1917, just one month before the U.S. declaration of war. This was, in fact, the same day the German government admitted in public that the Zimmerman Telegram was authentic: Berlin admitted it sought Mexico’s entry into the war on the side of the Central Powers, hoping it would attack the United States. There could now be little doubt that the United States would enter the war.

Cosby’s remarks outlined French “methods of attack and defense,” and he made the notable comment that he will only touch on recent developments, since the audience had “been made thoroughly familiar with them.” Thus, one may surmise that at this point in 1917, at least the small cadre of Army War College students was informed as to the realities of modern war. Cosby stated,

Mother Earth still offers to her harassed sons the best of all shelters. Since the earliest stages of the war the trench, with its accessories, has reigned supreme.

Continuing his remarks, Cosby breaks with the apolitical tone of his reports from Paris. The issue of enlarging and improving the U.S. military had been a politically charged topic since 1915, manifest in the Preparedness Movement led by Theodore Roosevelt and others.¹¹ In the fall of 1915, the Army staff had even been ordered by a furious Wilson to stop planning for European war contingencies.¹² By 1917, however, Germany had resumed unrestricted submarine warfare, and “preparedness” was perhaps safe ground for Cosby to address:

I find the opinion widely held here that this kind of warfare ... should be considered exceptional, that there is little likelihood of our own country ever being involved in it, and therefore that we should not attach too much importance to its lessons in our military preparations. This view I find to be erroneous. The preparedness which is essential to our national safety is against the contingency of war with one or more of the great powers. Every nation, including our own, must be prepared for such warfare.

While it seems clear that at least some among U.S. military leadership must have read Cosby’s reports, it is difficult to assess whether the top generals or senior civilian officials received or in any way acted upon this information. Given the lack of significant preparatory measures taken by the time the United States entered the war in April 1917, as well as the inadequacy of AEF recruit training prior to deployment to France, one could be forgiven for surmising that the United States had no awareness at all of the gravity of these new military dynamics. However, the Army had ample, accurate information from sources beyond Cosby’s reports – certainly enough to make serious changes.¹³

In fact, the United States had two chances to make improvements: prior to entry and during the 13 months between declaring war and first engaging in major combat operations.¹⁴ Both opportunities were squandered. By the U.S. entry into the war, American artillery, aircraft, and munitions were inadequate and existed in vastly insufficient quantities. Pershing’s troops received

hasty, shoddy training using outdated doctrine that entailed all of the pre-war assumptions once held by the European powers, particularly the importance and viability of massed infantry attack, the rifle, and the bayonet.¹⁵ In many cases, the lessons of French and British experience – the doctrine and training reflecting lessons learned from hundreds of thousands of casualties – were actively resisted and deemed ineffective or unsuited to the American way of war.¹⁶ In roughly 11 months of fighting, U.S. forces would sustain more than 300,000 casualties.¹⁷

While a massive increase in the size of the U.S. Army prior to 1917 was a political non-starter, the Cosby Collection proves that US leadership had the necessary information to at least modernize Army planning, doctrine, training, and leader development. The concrete details of modern war were available as early as the fall of 1914, and this information could have saved the lives of thousands of the U.S. “Doughboys” who would begin arriving in France in 1917.

Ukraine and Drone Warfare

One scholar of the Great War ultimately attributes the American refusal to make prudent military adaptations to “an unwillingness to believe the Army would soon have to fight on such a scale or in such an environment and an inability to devote the resources to preparing for possible operations in Europe while meeting other existing demands.”¹⁸ The situation facing the U.S. military today is unlike that of 1914 in that there is now general recognition that major war with great powers could involve the United States. The nation has a long tradition of involvement in foreign wars as a major power, which was certainly not the case in 1914. However, the early 20th Century challenges of competing demands and an unwillingness to adapt would certainly seem familiar to modern defense analysts.

There has been broad bipartisan agreement that the United States should prepare for a major modern war. This notion has comprised the core tenets of the 2014 *Quadrennial Defense Review*, the 2018 and 2022 U.S. *National Defense Strategies*, as well as senior defense

officials' comments under the second Trump Administration.¹⁹ The constant stream of publicly available information coming from the war in Ukraine, as well as close U.S.-Ukraine defense cooperation, has illuminated critical lessons for future warfare such as the ubiquity of unmanned systems of all types and the importance of having large quantities of critical munitions. Now, as in 1914, there is no shortage of information on the effectiveness of new weapons and novel employment methods for existing systems.

The question today is not whether to prepare but in what ways and to what extent. The civilian and military leadership in the Department of War must balance U.S. force development and planning decisions between at least two major potential warfighting challenges: China and Russia. Furthermore, they must also strike the right mix between costly, high-tech traditional platforms (*e.g.*, manned fighters, bombers, submarines, and ships) on one hand, and the numerous and cheaper “drone revolution” systems on the other.

Watching the war in Ukraine play out, analysts have much to consider and no clear indication of what the “decisive” technology in modern warfare is or will become. In terms of doctrine and tactics, the war is not a static trench conflict, as it is often assumed to be. The initial massed formations of Russian tanks and vehicles were stopped by anti-tank missiles and drones, which led to trench warfare, which eventually came to be breached by glide bombs, which then forced Ukraine to create distributed webs of defensive positions.²⁰ Ukraine's lightly manned positions then faced infiltration and shock troop tactics. At the time of this writing, Ukraine has again flipped the script by embarking on an extensive two-part strike campaign using large quantities of low-cost and increasingly long-ranged drones, aimed at strangling Russia's forces in Crimea and disrupting Russia's overall energy production.

The technological innovations have been rapid and numerous enough to warrant a dedicated study. The war has seen the advent of a wide range of innovations, such as first-person view (FPV) drones; unmanned surface vessels; anti-drone “coke cages” around vehicles;

fiber optic cable drones, motorcycle attacks; “armored” utility terrain vehicles (derisively called military golf carts); ungainly “mammoth” tanks festooned with improvised netting; pipeline infiltrators; offensives conducted entirely by robotic ground systems, and the “containerized drone warfare” seen in Ukraine’s June 2025 “Operation Spiderweb.” Spring 2026 has witnessed Ukraine’s effective use of imagery-based, jamming-proof terminal guidance for drones, empowered by artificial intelligence, in its strategy to isolate Crimea.

Expert views on this issue vary greatly. While the U.S. and Western militaries are watching and adapting, some commentators assert that these efforts are vastly insufficient.²¹ NATO has already “missed” the drone revolution, by some accounts.²² For those in this “drone camp,” unmanned systems of all types and ranges are dominating and will continue to do so, heralding a major evolution in the way militaries fight and field forces. For example, some experts assert that the “air littoral,” is a new zone where combatants must vie for supremacy using drones, and that traditional aircraft are largely decoupled from relevance to ground combat.²³

This camp tends to be highly skeptical of the value of expensive and advanced systems, many of which could or have fallen victim to cheap drones. Certainly, instances of “containerized warfare” such as Ukraine’s “Spiderweb” and Israel’s 2025 attacks on Iran have created serious force protection dilemmas, even for established militaries. When strategic bombers, key infrastructure, and air defenses deep within the home territory of authoritarian states are vulnerable to attacks originating from civilian sites or vehicles, Western nations must take notice. Furthermore, air and maritime drone strikes have also demonstrated the ability to threaten major traditional platforms operating in a deployed mode (not in bases), such as Russian surface vessels in the Black Sea.²⁴

A more cautious camp exists as well. The United Kingdom’s Chief of Defence Staff has warned against leaning in too far with “drone-tastic” thinking that neglects the value of traditional military platforms.²⁵ Some veterans have provided detailed accounts from

personal experience as to the limitations of FPV drones and do not recommend NATO rely on them.²⁶ Broadly, the skepticism of drone warfare sometimes implies or asserts that drones are so prevalent in the Ukraine war because neither side was ever able to bring to bear sufficient mass of traditional airpower and land forces.

For example, some defense commentators have noted that traditional artillery, mines, and long-range fires have achieved the bulk of the kills in the war, at least through mid-2025, with drones mostly providing clean-up services.²⁷ If this is true, then drones are useful and salient in modern war, but not particularly decisive. Western nations certainly should field increased drone and especially counter-drone capabilities. However, major platforms continue to offer irreplaceable capabilities, such as the ability to deliver stealthy and precise attacks against hard targets, as seen in U.S. and Israeli follow-on strikes against Iran's nuclear program.²⁸ Thus, it may be that the proven formula of traditional maneuver warfare enabled by advanced aircraft, long-range precision strike munitions, and highly mobile ground forces must still comprise the lion's share of nations' defense investments.

Indeed, it would be a highly risky proposition for any NATO member to go "all-in" on drone warfare, to the exclusion of established major platforms. However, it is also risky and perhaps arrogant to assume that "the West would do better." In other words, it is inadvisable to indulge in the conceit that the West would bring "proper" modern warfare to a conflict, whereas Ukraine and Russia have lacked modern doctrine, advanced technology, or sufficient professionalism from the start. Such an attitude would be the modern equivalent of the assumptions made by Americans training the AEF in 1917 and 1918, namely that European armies were bogged down in trenches because their troops lacked a sufficiently aggressive spirit and skill in rifle marksmanship.²⁹

Modern Force Planning

A third “hybrid” perspective in this debate provides the most useful and practical framework going forward. Namely, it may be the case that the U.S. military does indeed recognize the challenges, see the need to adapt, and have the right plan for doing so, but it must also be able to do so with speed and flexibility once a conflict has begun. The key characteristic of the Ukraine war has been and remains rapid adaptation.³⁰ This is the core lesson for Western planners. Technology and tactics are evolving too rapidly for there to be a discrete “right answer” at this stage, even when considering a possible conflict just a few years into the future. Military innovation is inherently an uncertain business. The demands of future warfare will require far more agility in acquisition and fielding, as well as the ability to field vastly greater quantities of munitions, than the US military has demonstrated for many decades.³¹

There seems to be little room to question this assessment, considering the setbacks in Western drone programs. Most egregiously, in July 2025, the U.S. Army proudly announced its testing of grenade-dropping drones, seemingly unaware that this capability was first used in war, against U.S. forces, almost 10 years ago by a non-state actor.³² During the September 2025 Russian drone incursions into Poland and Romania, NATO fighters only managed to shoot down a small fraction of the incoming aircraft, potentially providing further evidence of the West’s inability to adapt quickly.³³ The destruction of a U.S. E-3 Sentry airborne early warning and control system (AWACS) aircraft in March 2026 during Operation Epic Fury further revealed U.S. vulnerabilities.

Indeed, the machinery of the Pentagon moves slowly, akin to the proverbial huge oil tanker that can only alter its course by a degree or two at a time. The U.S. military first began its shift from a focus on counter-insurgency and counter-terrorism operations to preparedness for high-end conflict in 2014, reacting to Russia’s invasion of the Crimea region of Ukraine and China’s territorial assertions in the South China Sea.³⁴ The Secretary of War issues annual internal force

planning guidance directing the Departments of the Army, Navy, Air Force, U.S. Special Operations Command, and Missile Defense Agency (which together control the vast majority of Pentagon funding under their budget authority) on how to devote additional resources, where to maintain funding, and where to accept risk. Such guidance is the primary method by which the Department's civilian leadership shapes the capability, capacity, and readiness of the Joint Force. The Services' and components' leadership develop their annual budgets in response to such guidance, as well as their own priorities, observations, and institutional preferences.

Congress, of course, gets a say as well through oversight, legislation, and appropriations. Each year, the Department's top leadership makes the case for their force planning solutions, as reflected in the President's Budget Submission. They are often greeted by heavy skepticism, rooted in views akin to the camps described above, or in more parochial concerns. In particular, major, traditional platforms tend to generate far more jobs in Congressional districts than the manufacture of small drones and guidance software, and this increases the tendency in the Executive and Legislative branches to continue planning merely for conflicts that look like the last war.

All of this means that the pace of adaptation has been glacial and that much remains to be done in terms of preparedness for a high-end conflict with a peer competitor. Western defense leadership and force planners must extrapolate the lessons learned in Ukraine's land-centric conflict and apply them more broadly to future, larger-scale, and more advanced warfare, as opposed to today's war in Ukraine. In other words, rather than adapting to the current character of war, the Pentagon's planners must shoot ahead of the target while also improving the Department's ability to adapt *during* a conflict. This is a very challenging task. The goal is not to get everything right, but to sufficiently adapt and hedge in the highest-impact areas in order to reduce risk. Geography continues to matter in this regard. European NATO nations must prepare for a major war with a Russian military with relative mastery over drone warfare. Part of this mastery will have been driven by necessity due to extensive Russian casualties in

Ukraine, but also by the fact that land warfare lends itself quite naturally to numerous and relatively inexpensive drones.

The U.S. military, outside of the NATO context, must navigate a different dilemma. On a bipartisan basis, the US Joint Force continues its primary focus on preparation for a war with China in the Indo-Pacific, guided by several Administrations' defense strategies. While doing so, U.S. forces must certainly prepare for drone-centric warfare, but must not over-optimize for a conflict like the land war in Europe.

A U.S.-China conflict scenario, fought mostly in the air and maritime domains, would rely heavily on capabilities barely featured in Ukraine: submarines, aircraft carriers, fifth-generation fighter aircraft, surface combatants, stealth bombers, survivable space assets, the nuclear triad, and cyber weapons. Yet the need for both vastly larger stocks of key munitions and a far more robust munitions industrial base will persist in any conflict. To complicate matters, U.S. force planners must puzzle out how China might apply the extensive use of all types of unmanned systems to strengthen its anti-access/aerial denial network in the Pacific. On the flip side of the coin, the Pentagon is analyzing how the United States can utilize unmanned systems to enhance its distributed lethality efforts and fight within China's ever-expanding weapon employment zone. These challenges are distinct from the relatively short-range, drone-centric warfare in Ukraine.

Therefore, the key question for Western force planners is not *whether* to adopt a more drone-centric force structure, but rather *how* to adapt drone warfare technologies and tactics to the geostrategic conditions of the highest risk contingencies. Adding to this challenge, the lesson from the Ukraine war is that these adaptation efforts must be complemented by operational and technological flexibility once the conflict is underway; constant innovation will be essential. There is thus no clear destination or end point at which the force can ever be fully prepared for future war. As soon as the conflict begins, and as it progresses, the pace of technological innovation will drive the continually evolving character of war.

This framework should guide U.S. force planners as they direct the relative levels of investment by the Services in platforms and weapons systems. For the conflict scenarios with the highest stakes, particularly in the Indo-Pacific against China, the focus will need to remain on advanced aircraft, long-range strike systems, and undersea forces, enabled by robust data and targeting capabilities in the air and space. In the event of a major land war with a drone-centric power such as Russia, these capabilities will remain highly relevant in that they can ensure air dominance and strike critical logistics targets. Such an approach is the surest way to deter adversary power projection and aggression in the most strategically consequential cases. Yet the U.S. military must also identify the right hedges against drone warfare that make major platforms both more effective and survivable, and it must be prepared to shift these measures in near-real time. The swarms of drones will come, but traditional U.S. capabilities will still be the mainstay force in the near- to mid-term. These platforms will still be called upon to destroy major adversary forces and ensure that the enemy ends up short of fuel, power, communications, ammunition, and food.

Conclusion

Cosby's cables back to Washington failed to have an appreciable impact due to doctrinal stubbornness and a deep-seated societal belief that war could be avoided. His voice should have stood out amidst the worldwide war unfolding abroad. Today, the United States and European militaries have a long way to go in preparing for future war and are far from being able to prognosticate the right future force mix and doctrine. However, they have at least identified the need to change and are already far more prepared for contemporary warfare than the United States was in 1917.

Modern defense planners should approach the evolving character of modern warfare with caution and humility. After the U.S. declaration of war in 1917, as the Army began training vast numbers of troops, its officers were famously dismissive of lessons the Allies

had learned over years of heavy losses. They derided French and British training as overly cautious, and asserted that a focus on bravery, marksmanship, and offensive spirit would break the stalemate on the Western Front. They arrived with the same misguided hubris that animated the early-war armies of the Allies and Central Powers alike. The United States must not make such mistakes today.

There is no modern analog to Cosby in today's world, but there is a vast digital infosphere of media and think tank commentators, as well as innumerable official reports within the U.S. Government, warning that the United States is under-prepared for a wide range of new and unexpected forms of warfare. The daunting challenge facing the force development and planning community today is how to place the right bets on future technology for the most pressing scenarios, while modernizing or divesting legacy systems, and then convincing key Congressional leadership that the Pentagon has the right answers.

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About the Author

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The views expressed herein are entirely the author's own, and do not necessarily represent those of anyone else.

Notes

- ¹ Carl von Clausewitz, *On War*, trans. Michael Howard in *The Makers of Modern Strategy: From Machiavelli to the Nuclear Age* (Peter Paret, ed.) (Princeton University Press, 1986), 89.
- ² The author first learned about the Cosby reports during remarks given at the Pentagon by Dr. Michael S. Neiberg. See Michael S. Neiberg, *Path to War: US Entry into World War I*, The Office of the Secretary of Defense Historical Office, May 24, 2017, <https://youtu.be/Uf1GPX4fRVw>; see also Michael S. Neiberg, *The Path to War: How the First World War Created Modern America* (Oxford University Press, 2016).
- ³ Richard S. Faulkner, *The School of Hard Knocks: Combat Leadership in the American Expeditionary Forces* (Texas A&M University Press, 2012), 10-12, 22.

- ⁴ Glen T. Cullen, *Preparing for Battle: Learning Lessons in the US Army During World War I*, US Army Command and General Staff College, June 4, 1999, <https://apps.dtic.mil/sti/pdfs/ADA367602.pdf>.
- ⁵ This article is based on research conducted on boxes 1-4 of The Spencer Cosby Collection, the U.S. Army Heritage and Education Center, Carlisle Barracks, Pennsylvania.
- ⁶ *Spencer Cosby: An Inventory of His Collection*, U.S. Army Heritage and Education Center, Carlisle Barracks, Pennsylvania, October 2012, https://usawc.libguides.com/ld.php?content_id=80258749.
- ⁷ *What US Can Do: Joffre Confers on American Help in War*, *The Daily Star* [Fredericksburg, Virginia], April 27, 1917.
- ⁸ Cosby made a point of noting that generally the French were very open, frank, and permissive during these trips, and he was allowed full access to interview French troops and observe combat operations.
- ⁹ Stephen van Evera, *The Cult of the Offensive and the Military Origins of the First World War*, in *Military Strategy & the Origins of the First World War* (Steven Miller, ed.) (Princeton University Press, 1973), 58-107.
- ¹⁰ Mark Ethan Grotelueschen, *The AEF Way of War* (Cambridge University Press, 2007), 15-21.
- ¹¹ John Patrick Finnegan, *Against the Specter of Dragon: The Campaign for American Military Preparedness, 1914-1917* (Greenwood Press, 1974), 189-195.
- ¹² Richard S. Faulkner, *Giant with Feet of Clay: The US Army Enters WWI*, Remarks at the National WWI Museum and Memorial, April 18, 2017, <https://www.youtube.com/live/4PIj0sHhFKs?feature=share>.
- ¹³ Grotelueschen, *The AEF Way of War*, 24.
- ¹⁴ *Ibid.*, 10.
- ¹⁵ Faulkner, *Giant with Feet of Clay*.
- ¹⁶ Faulkner, *The School of Hard Knocks*, 23-24.
- ¹⁷ Michael Hanlon, ed., *Rushed to the Front: The Utterly Inadequate Training of the AEF*, Roads to the Great War, August 25, 2023, <https://roadstothe greatwar-ww1.blogspot.com/2023/08/rushed-to-front-utterly-inadequate.html>.
- ¹⁸ Grotelueschen, *The AEF Way of War*, 24.
- ¹⁹ See U.S. Department of Defense, 2018 *US National Defense Strategy*, February 2018, <https://media.defense.gov/2020/May/18/2002302061/-1/-1/1/2018-NATIONAL-DEFENSE-STRATEGY-SUMMARY.PDF>, 1-2; see also U.S. Department of Defense, 2022 *US National Defense Strategy*, October 2022, <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.pdf>, 1; Secretary of Defense Pete Hegseth, FY26 Written Posture Statement, House of Representatives Appropriations Committee, June 10, 2025, <https://docs.house.gov/meetings/AP/AP02/20250610/118359/HHRG-119-AP02-Wstate-HegsethP-20250610.pdf>, 1-2.
- ²⁰ Ukraine Matters, *Lightning-Fast Doctrine Evolution in Ukraine's War*, August 31, 2025, <https://www.youtube.com/watch?v=OKUAuFMrmoe&list=WL&index=12>.
- ²¹ Farah Stockman, "Why the U.S. is Way Behind in Making Drones for War," *New York Times*, July 13, 2025, <https://www.nytimes.com/2025/07/13/business/drones-us-military-manufacturing-lags.html>.
- ²² Jacquelyn Schneider and Julia MacDonald, "How to Lose the Drone War: American Military Doctrine Is Stifling Innovation," *Foreign Affairs*, July 31, 2025, <https://www.foreignaffairs.com/united-states/how-lose-drone-war>.
- ²³ Franz-Stefan Gady, "The Air Battle That Could Decide the Russia-Ukraine War," *Foreign Policy*, July 23, 2025, <https://foreignpolicy.com/2025/07/23/ukraine-war-drone-air-battle-russia-technology-tactics/>.

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- ²⁴ Russia has lost a cruiser and dozens of other vessels to Ukrainian air and maritime drone attacks. See Roland M. Kolwitz, "Russia's Black Sea Failures Are Lessons for the South China Sea," *Proceedings* (US Naval Institute), September 2025, <https://www.usni.org/magazines/proceedings/2025/september/russias-black-sea-failures-are-lessons-south-china-sea>.
- ²⁵ Admiral Sir Tony Radakin, interviewed by Seth Jones, *Reflections from the UK's Chief of the Defence Staff*, Center for Strategic and International Studies, August 14, 2025, <https://www.csis.org/analysis/reflections-uks-chief-defence-staff>.
- ²⁶ Jakub Jajcay, "I Fought in Ukraine and Here's Why FPV Drones Kind of Suck," *War on the Rocks*, June 26, 2025, <https://warontherocks.com/2025/06/i-fought-in-ukraine-and-heres-why-fpv-drones-kind-of-suck/>.
- ²⁷ Jajcay, "Why FPV Drones Kind of Suck."
- ²⁸ Michael C. Horowitz, Lauren A. Kahn, & Joshua A. Schwartz, "What Drones Can – and Cannot – Do on the Battlefield: The Pentagon Should Learn from Israel and Ukraine," *Foreign Affairs*, July 4, 2025, <https://www.foreignaffairs.com/united-states/what-drones-can-and-cannot-do-battlefield>.
- ²⁹ As Faulkner writes, one senior U.S. officer stated after the United States had entered the First World War that "[i]n many respects, the tactics and techniques of our allies are not suited to American characteristics or the American mission in this war. The French do not like the rifle, do not know how to use it, and the infantry is consequently too entirely dependent upon a powerful artillery support. Their infantry lacks aggressiveness and discipline. The British infantry lacks initiative and leadership." See Faulkner, *Giant with Feet of Clay*, 23-24.
- ³⁰ Andriy Zagorodnyuk, "The New Revolution in Military Affairs," *Carnegie Endowment for International Peace*, April 20, 2026, 15 <https://carnegieendowment.org/research/2026/04/ukraine-russia-war-changing-warfare-practice-military-strategy>.
- ³¹ Horowitz, et al., "What Drones Can – and Cannot – Do on the Battlefield."
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