

SMALL ARMS AND ASYMMETRIC THREATS

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HOW MIGHT THE CONVERGENCE of global instability, new US interventionism, trends in asymmetrical warfare and advancing small arms technologies threaten future US ground combatants? Without providing definitive answers, this article sketches a starting point for what should become a collective concern. The US military must envision the otherwise unanticipated threat before it becomes an overwhelming combat challenge for the US Armed Forces.

While Russia is no longer a military threat, the castoff nations of its former empire have occasionally become sites of political turmoil and ethnic cleansing. Given the moral responsibilities conferred by the exclusive claim to superpower status, the United States can and likely will be drawn into trouble spots around the world—its new interventionism. More often than not, responses will likely take the form of ground forces sent on peacekeeping missions. Aside from historical US ties with Europe, ruling cliques in the Middle East, Southwest Asia and China all seemingly possess power aspirations that could well bring them—or others—into conflict with US national interests. The future for US ground combatants will probably replicate the dangerously unstable world of the 20th century.¹

Instability characterizes the global situation at the dawn of the 21st century. This instability bodes both good and ill for the US military—good in the sense that some democratic good may come of the turmoil, and ill in the sense that regional difficulty will remain plentiful. With such uncertainty, properly assessing future threats and equipping US ground combatants is problematic. As professional officers of an emergent superpower, Qiao Liang and Wang Xiangsui offer the Chinese perspective on future war. Western analysts cannot dismiss them as simply dogmatic or sycophantic, for they might be the tip of a potential enemy iceberg. “When people discuss future warfare, they are already quite accustomed to using certain weapons or certain technologies to describe it, calling it ‘electronic warfare,’ ‘precision-weapons warfare,’ and ‘information warfare.’ Coasting along in their mental orbit, people have not yet noticed that a certain inconspicuous yet very important change is stealthily approaching.”²

Asymmetric Warfare: A Wave of the Future?

In asymmetric warfare, along with its adjunct terrorism, a militarily weak force artfully uses limited resources to offset the strengths of a

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As in the Cold War, host states may assist proxies. However, the historical parallels may loosely fit as proxy nation-states take the form of transnational groups or regional sects. Heterogeneous groups armed and equipped by a host state may form the face of future battle—becoming a threat whose strength is paradoxically rooted in its own weakness.

more powerful military force. Such conflicts are no anomaly but rather the prototypical type of historical US warfare—on both sides—that predates the Revolutionary War by more than 140 years.³ Has asymmetric combat historically been a logical choice for a weaker military opponent? Recalling the Vietnam War experience, is the United States especially vulnerable to threats hidden within an indigenous populace?

Chinese ruler Mao Zedong recognized the utility of this approach when he said “that the insurgent is like a fish that swims in the ocean of the people.” Mao’s observation remains a predictable lodestone for asymmetric threats. China or perhaps some other newly emerging global power might engage US interests on the economic and military margins. As in the Cold War, host states may assist proxies. However, the historical parallels may loosely fit as proxy nation-states take the form of transnational groups or regional sects. Heterogeneous groups armed and equipped by a host state may form the face of future battle—becoming a threat whose strength is paradoxically rooted in its own weakness.

Those seeking to neutralize the power disparities inherent in asymmetric warfare will target vulnerable US ground combatants. Therefore, US ground combatants’ small arms must be adaptable to the realities of such combat. While these challenges are not lost on Army leaders, much small arms development remains before overmatching the asymmetric possibilities. The Army is already transforming institutionally to ensure deployability and considering the soldier holistically as a system. Both developments will ideally produce plasticity in organizational and material structures, providing protection against asymmetric warfare.⁴

The interim brigade combat teams will have unmatched situational awareness, with “reconnaissance, counterreconnaissance, deception and surveillance capability that is unlike any other brigade-size force.”⁵ No matter how mobile, deployable or capable units become, troops will risk failure if their organic lethality falls too far behind the larger pieces of transformation. Affording small arms development, the effort warranted by its importance would amply equip ground combatants to accomplish every mission.

Certainly the US response to an asymmetric threat must be an improvement over what has historically been the case. As evidenced by the Vietnam War, military responses sometimes devolved in ham-handed affairs conducted in close proximity to civilian settlements. Such solutions in the postmodern age lead only to morally Pyrrhic victories. The small-arms piece of this puzzle cannot be simply that of arbitrary firepower and sorting out the enemy combatants from noncombatants in the wake of the damage done. Therefore, it is arguable that at least three small arms developmental strategies should be adopted. These strategies would permit flexible small arms applications and make the force adaptable in combat at distances from arms-length to roughly 300 meters.⁶

First, small arms must overmatch the threat’s lethality in close quarters battle while minimizing collateral damage. This capability is especially important to remove the typical advantage for the asymmetric threat during military operations in urban terrain. The traditional rela-

Dara, Pakistan. A young gunsmith making—not repairing—knock-off copies of various machine guns at the “Alice’s Restaurant” of firearms. Along the wall is a selection of Soviet and US weapons used as masters. The price is right, but the metal is soft. No long bursts, please.

Armed Forces Journal



tionship among elements of combat power tends to shift during combat in urban areas. Massive firepower and the effects of nonlethal systems, maneuver and information superiority can be neutralized in close-quarters combat, which is surprising and casualty intensive. Since ancient times urban combat has been brutal. While nothing on the horizon forebodes anything as horrific as the Battle of Stalingrad, US combatants should be armed for the worst possible conditions.⁷

Second, small arms must continue to overmatch the threat in conventional battle. Conventional battle in the context of small arms systems may be defined as combat between forces several hundreds of meters apart, whose observation is generally unimpeded by all objects. Technology offers much promise in this mode of combat, which tends to be dominated by the combatant whose weapons can hit the enemy without the enemy’s being able to hit back. The technologically superior combatant usually commands the advantage in this type of battle, when weapon sights and improved munitions take their toll on less technologically sophisticated opponents. The Army should reinforce success and further improve small weapons’ long-range precision.

Third, small arms must be effective against nonparadigmatic shadow threats such as terrorists, drug cartel operatives and transnational criminals. As national identities continue to dissolve, groups that elude existent taxonomies will likely form a patchwork quilt of future threats.

Perhaps the most important of these threats is terrorism, especially as foreign policy seemingly links military global involvement with ethical responsibility. During interventionist exploits smart bombs may destroy unintended targets and fuel terrorists’ rage. Terrorists may seize mistakes such as these—or the perceptions of mistakes—as a justification for violence. Deeply ingrained memories of hurt intermix with ethnic

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At the dawn of the 21st century, US weapon developers are investigating laser-light, microwave, particle-beam and sonic-wave technologies. No doubt there is much potential in these areas. However, expectations have generally remained unfulfilled as seemingly insurmountable difficulties with target coupling, beam propagation, power requirements and even international legalities delay further development.

or regional pride, and terrorism can erupt in forms ranging from unconventional combat to criminal activity. Such elusive threats are particularly difficult for conventional forces to fight—offensively or defensively. Obviously, low-collateral-damage munitions and nonlethal capabilities for small arms are essential to combat the shadow threat successfully.

Legacies: Small Arms in 2005-2015

What sort of small arms might our future ground combatants face in asymmetric battle? Generically, these weapons might be similar to those they have faced in recent military operations. Such weapons—and the technologies they represent—have remained the staple individual and crew-served weapons since World War II. Tried and proven, such systems will likely play a role in future combat well into the early decades of the 21st century, although perhaps with much-improved fire control or fragmenting munitions.

Kinetic-energy small arms have a long history—the first hand cannons appeared in Europe around the middle of the 14th century. In the interim, the push of technological development and the pull of user need have led to dramatically increased probabilities of hits and kills. The likely technological trends in first two decades of the 21st century might produce significant improvements in threat small arms:

- Lighter system weight for enhanced personal defense.
- Reduced caliber to reduce recoil and logistic mass.
- Increased magazine capacity for added firepower.
- Improved ammunition lethality and capabilities, to include armor-piercing bullets and possibly bursting munitions.
- Sighting devices and fire control. Optics coupled with inputs from on-board ballistic solution computers and wind-sensing technologies may be combined to determine the projectile's point of impact. A proliferation of inexpensive night vision devices or thermal imagery may provide the threat a viable 24 hour tactical capability.
- Ancillary mounting rail for the “mix and match” addition of grenade launchers or shotgun barrels as well as red-dot collimators, aiming lights or flashlights.⁸

The upward innovation curve is flattening for conventional weapons as kinetic energy technology matures. Exceptionally dramatic refinements might include seeker projectiles, bursting munitions and highly precise sniper weapons.⁹ But while vertical development may slow, horizontal proliferation of kinetic energy small arms continues apace as the developing world modernizes its ground forces. In the coming decades, even poor countries or groups may possess good-quality, semiautomatic and fully automatic small arms. The small-arms wild cards are practical directed energy small arms systems being developed in Europe and the Pacific Rim, which could be transferred—legally or otherwise—to groups hostile to the US.

Lighting and Thunder: Small Arms of 2015-2020?

“Buck Rogers” disintegrating ray-guns are fictional artifacts of the 1930s. Might such weapons become the future threat reality? At the dawn of the 21st century, US weapon developers are investigating laser-light, microwave, particle-beam and sonic-wave technologies. No doubt there

A patrol moves into Mogadishu's Bakara Market during Operation Restore Hope.

Joint Combat Camera



is much potential in these areas. However, expectations have generally remained unfulfilled as seemingly insurmountable difficulties with target coupling, beam propagation, power requirements and even international legalities delay further development. And with budgetary constraints, developmental efforts drift into more pragmatic waters.

Perhaps the United States poses a threat to itself in this case. Budgetary constraints and complacency in some quarters might undercut the spirit of research and development. Still, threat scientists could relentlessly seek answers to questions that we shelve or relegate to second-tier efforts. Perhaps individual initiative will fill the gap. American military research has historically benefited from hip-pocket research by mavericks on the margin without adequate organizational funding. However, such developmental folklore depends more on researchers' passions than institutional processes. Entrepreneurs seeking the new and unique might be the best hope for keeping the research pilot light lit and pursuing new technologies.¹⁰

Among the emerging technologies are lasers and optical weapons—both of which can damage vision. Their damage mechanism is a function of the wavelength of the light energy. Additionally they can damage different parts of the eye:

- The blue end of the electromagnetic spectrum affects the lens of the eyes.
- The visible region affects the retina.
- The red end affects the cornea.

The damage to the eye further increases if the person is looking through unfiltered direct-view optics such as binoculars or a telescope. The aperture of the optics is greater than the human eye's and therefore collects more light energy and directs it into the eye. Aside from retinal damage, laser and optical technologies can temporarily reduce visual

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Conventional battle in the context of small arms systems may be defined as combat between forces several hundreds of meters apart. . . . Totally effective body armor remains an elusive goal. Although improved bullet-resistant vests have reappeared in the late 20th century, all but the most cumbersome only defeat relatively low-velocity bullets and spent shrapnel. However, a variety of current innovations could radically alter this situation.

acuity by the use of glare, and flash-blinding/dazzle. Although the damage mechanism is rarely lethal, the loss of visual acuity may impair the victim's ability to complete his combat mission.

Moreover, lasers can help detect ground combatants. A force's location can be identified by reflections off the objective lens of a sniper's rifle scope or a forward observer's optics. And while laser weapons may not supplant threats' lethal small arms systems, they could nevertheless provide a psychologically significant terror weapon.¹¹

Emerging sound technology could also translate into a weapon with psychological impact. Anyone caught off guard by the blast of an air horn will attest that sound can hurt and disorient humans. However, the capacity to turn sound into a viable weapon system has long eluded developers. Attempts to make an acoustic weapon date back at least to German experiments during World War II. Recent efforts by several of the national research and development centers have resulted in the design, fabrication and testing of various sound devices which have produced sound pressure at high intensities. The preliminary results of these initial investigations show that high sound levels may result in permanent hearing damage and possibly damage organs in the chest cavity. Technological innovations in this century's early decades could finally solve attendant problems of direction and attenuation. In that case, a combat-effective sound weapon might be employed to shock or demoralize US ground combatants.¹²

The Human Target

Wounding is more than a forensic event. Ground combatants are not compliant targets but conscious, thinking beings. When exposed to the horrors of combat they promptly develop and deploy a variety of coping strategies. During the ground combatant's initial exposure to combat, the wounding and killing of comrades tends to be perceived as independent events apart from oneself, something which happens to someone else. As combat extends into days or weeks, this feeling of insulation from morbidity and mortality begins to wane as random terror takes its toll.¹³

	<i>Dimensions in meters</i>		
	<i>Width</i>	<i>Height</i>	<i>Area(M²)</i>
Standing	0.454	1.486	0.675
Crouching/ Kneeling	0.495	0.861	0.426
Prone	0.660	0.353	0.232
Foxhole	0.495	0.375	0.186

	<i>Historical Engagement Data</i>	
	<i>Distances (In meters)</i>	<i>Exposure Times (In seconds)</i>
Jungle & MOUT	<100	3-5
Most Scenarios (90%)	<300	5-7
Desert	>300	5-7

The US technological superiority that Land Warrior represents is a tenuous condition.

US Army



This realization of precarious survival divides combat veterans from novices. As a correlation forms in the mind of the combatant between those taking risks in battle and those dying or being severely wounded, the observant combatant avoids all but the most necessary risks. For all of these reasons, combat wounding must be examined holistically with both psychological and a physical aspects. Human wounding and incapacitation reveal the unity between mind and body—a unity upon which hangs the combatant's will to continue fighting.

Along with target composition is the equally important issue of human target exposure. What exactly are the dimensions of the human target? The range of possibilities includes ideal target exposure and probable target exposure. A ground combatant standing on the crest of a hill silhouetted by sunlight exemplifies ideal target exposure. Probable target exposure could be a fleeting glimpse of an arm or boot heel in a wood thicket. For a few quantitative estimates regarding human targets, it indicates movement and dimensional information and pertains to classic infantry soldiers (see Figure).¹⁴

Human targets present visual, auditory, tactile and thermal cues. If a reliable profile of these cues can be discerned by sensors and separated from the cues of nontargets, then the highlighted humans will pose lucrative targets for the future threat. However, given recent trends in concealment or protective garments, might innovations in battle-uniforms render small arms projectiles obsolete? An enemy that moves virtually unseen would pose a significant threat to all friendly ground

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Friendly and enemy forces may be differentiated only in degrees of carnage attributed to either side, but such complexities may become unintelligible after casting good guys and bad guys. Such simplistic orientations can place the media fundamentally at odds with US national interests and the use of its military instrument.

combatants. Certainly personal concealment has long been an elusive dream of the individual combatant. The 20th century saw gray and khaki field uniforms give way to less-conspicuous camouflage patterns, and the issue of how not to be seen continues to influence ground combatants' life expectancy. An enemy uniform that perfectly matches background colors—like a chameleon—might redefine the nature of ground combat.

Body armor and helmet technologies can also benefit a threat force as they do US ground combatants. Historically, these types of protection have been overcome by improvements in weapons' power—medieval knights once possessed armor that protected them against all but the most violent lance or axe blows. However, kinetic energy weaponry soon sent their armor from use on the battlefield to display indoors. For friend and foe, totally effective body armor remains an elusive goal. Although improved bullet-resistant vests—surpassing the failed attempts of earlier inventors—have reappeared in the late 20th century, all but the most cumbersome only defeat relatively low-velocity bullets and spent shrapnel. However, a variety of current innovations could radically alter this situation. Such emergent trends include protective equipment incorporating high-hardness steel plate amid fiber, flexible honeycombed ceramic armor, human eye ballistic protection goggles and shock-absorbing helmets.¹⁵

The Message from the Battlefield

*[W]arfare is no longer an activity confined only to the military sphere, and the course of any war could be changed, or its outcome decided, by political factors, economic factors, diplomatic factors, cultural factors, technological factors, or other nonmilitary factors.*¹⁶

— Qiao Liang and Wang Xiangsui

The eyes and ears of the media roam the battlefield, generating controversy. The role of the US media during the Vietnam War still rouses emotions among veterans. However, the media cannot be managed or wished away. What combatants think about their role is important and they understand it largely in terms of how it is presented and perceived on the homefront.¹⁷ However, combatants and their actions will be seen through a media lens controlled largely by people with a truncated understanding of the military and an evolving global perspective. To transcend national identity, reporters might feel obliged to renounce affiliation with, or attachment to, national interests.

Free of parochial interests and wholly focused on the attended horrors of war—especially collateral damage—news organizations tend to conflate wars with the instruments of combat—to include the ubiquitous small arms systems. Such situations are further compounded when operations occur amid existing tribal, ethnic or religious discord. Friendly and enemy forces may be differentiated only in degrees of carnage attributed to either side, but such complexities may become unintelligible after casting good guys and bad guys. Such simplistic orientations can place the media fundamentally at odds with US national interests and the use of its military instrument. Because the media dramatically affects how the US ground combatants are characterized in any future military operation, minimizing collateral damage—including by small arms—is crucial.¹⁸

Whether asymmetric threats arise from proxy states or terrorist groups, they will seek to offset US strengths, perhaps by exploiting the transnational media. Should US small arms overmatch the threat at long range, the threat will likely seek combat in an urban or heavily wooded area to negate that advantage. The threat could also attempt to erode confidence in weapon systems with the goal of compromising faith in those who manufacture them, the government who supplies them, those who use them and the purpose for which they are employed.

As the United States develops weapons and equips ground combatants for contingencies, future adversaries will do the same—perhaps more successfully. US industrial might and geographical isolation have historically compensated for being caught napping, but they might provide no refuge in future war. Threats will neither wait for the United States to get ready nor stand still for bludgeoning; during combat, their ground combatants could prove difficult to find, let alone to wound or kill. Today's pursuit of offensive and defensive technologies—and the under- or overreliance on them by either the threat or the United States—may well determine whether the US military can successfully deter or defeat future threats. **MR**

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NOTES

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