

LETTERS

Tank-Design Imperative: Prepare to Repel Boarders

Dear Sir:

I enjoyed CPT Meyer's article in the May-June 98 issue and thought it was well done. However, I have a couple of comments that may be of interest.

First, APS can be considered a subset of the close-in defense systems that have appeared since the beginning of World War II (e.g. the German Nahverteidigungswaffe, a roof-mounted 92mm mortar; Tiger Tank 'S' mine dispensers, and bent barrel Stug-44; the U.S. short-range flamethrowers for the Pacific; British AP munitions for their smoke dischargers; and Rhodesian/U.S. counter-ambush devices). These were all intended primarily to prevent or discourage antitank dismounted boarders. This remains a very valid requirement today, especially as we contemplate the increasing probability of urban combat and the restrictive rules of engagement that permit potential enemies to approach very close before they show 'hostile intent' (particularly since the M1's 120mm smooth-bore currently has neither APERS nor HE rounds). It is interesting that only the French Galix and the Israeli POMALS systems specifically address this need. Second, I suspect that the emerging threats presented by wide area mines (top and possibly side attack types), precision-guided mortars (such as Merlin and Strix), and Fiber Optic Guided Missiles, all of which are also in development in Europe, fall outside the engagement parameters of the current defense systems (low velocity and high arc). However, I believe these could also be countered (or at least degraded) by these defense systems if the threats are considered in the development process and allowances made in the design. Actual hardware/software changes would not be required until these threats become reality.

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Computer Simulation Fallacy: Assuming Troops Are Well Trained

Dear Sir:

Major Eastman's and Mr. Helton's article, "Simulations and Training," in the March-April 1998 issue comes at a crucial time as our Army wrestles with balancing virtual, live, and constructive simulations in training the force. From what I read and what I see, our funding and development priorities seem to be weighed heavily toward the virtual and constructive simulations and away from live, FTX-based training. These computer-driven training simulations will dominate the so-called "second training revolution." In my

opinion, we do not understand all the risks associated with such a prioritization.

Clearly, live simulation — as represented by the "dirt CTCs" and other FTX-based training — is very expensive, but it is also the only training appropriate for tactical units consisting of tank crews, rifle squads, attack helicopter companies, and artillery batteries. Even the best computer simulations we have today fall far short of replicating the friction of the battlefield and the determination of an uncooperative, even ruthless, enemy. In my estimation, instead of investing so heavily in computer simulations, especially the constructive ones like BBS, CBS, WARSIM 2000, etc., we need to find ways to adequately resource home station FTX training and fully resource CTC rotations. Let's use, or at most upgrade, existing computer simulation systems.

Of course, I am biased toward live simulation, but have used all types of simulations throughout my career. In my two years of total immersion in simulated combat operations at the NTC, the world's foremost "simcenter," I have discovered a couple of interesting things. First, every one of our constructive simulations aimed at training commanders and staffs at corps, division, and brigade levels are based on a single fundamental assumption — that the platoons, companies, battalions, and brigades represented by computer icons equate to well-trained soldiers and units. From what I have observed, that assumption, which underpins all of our simulations, may be flawed and makes the outcomes of our computer simulations suspect! I know that sounds like heresy to some, but I have rarely seen a rotational unit at the NTC that can perform its mission as well as a computer icon. And if we continue to divert resources away from training those units and the soldiers who will do the fighting and dying on the next battlefield, we will further skew the results of our simulated war games.

What evidence is there of this? First, the last four brigade commanders who trained at the NTC indicated that the computer simulations they used at home station (JANUS, BBS, and CBS during participation in BCTP Warfighter exercises) did not adequately prepare them or their staffs for what they experienced in simulated combat at the NTC! They referred to basic combat activities, like movement of units over real terrain, navigation, night operations, fire support operations, casualty evacuation, heavy logistics operations, and others as being highly doable in the simulation world, but were exceedingly hard to accomplish at the NTC due in part to the internal friction in their units as well as the actions of the OPFOR (which, incidentally, uses little or no constructive or virtual simulations in its own internal training — hmmm...). Secondly, the Chief of Staff of the Army has indicated that the entry level of units arriving for training at the CTCs is not as high as it was a few years ago — for many very good reasons, including lack of adequate home station training. Does this situation imply that the success that these units and their higher HQs experienced during exercises like a War-

fighter should be called into question? The answer must be a qualified "yes," at least and until their units can perform at the CTCs as well as their icons can perform in the simcenters. In other words, live simulations address reality or "what is" while many of our other simulations address only "what ought to be" — clearly, a disconnect.

All of this runs counter to the argument posed by some that the "results" of engagements and battles at the dirt CTC are inaccurate or are out of sync with our experiences in the computer-driven simulation world. I contend, though, that it is the perceived success that units experience in the constructive world that must be taken with a grain of salt; because even the performance of units that do exceedingly well at the NTC in live simulation (the hardest to execute and the most difficult to resource) rarely matches what their icons are capable of. If any realignment is needed, it is in the opposite direction — have units perform their missions in constructive simulation based on historical performance at the CTCs — then we will get a truer picture of the combat capability of our brigades, divisions, and corps.

An extension to the argument above is for us to be cautious in making modernization and force structure decisions based on the outcomes of constructive simulation exercises. Take, for example, the proposed reduction of the tank battalion from 58 M1A1 tanks to 45 M1A2 tanks. Once again, the key assumption underpinning such a decision is that there will be well-trained crews and leaders operating these systems. Without that assumption being absolutely irrefutable, such decisions must be viewed as highly questionable. I wholeheartedly agree that the M1A2 is qualitatively better than the M1A1 (certainly it is in shooting, but in moving and communicating, too?) — but ask yourself which of the following is better? The M1A1 tank in the hands of a highly trained and experienced unit, or the M1A2 in the hands of an inexperienced or poorly trained outfit? Just saying that the M1A2 is better than the M1A1, no matter how the equipment performs, doesn't make it so (yet, it is so in a computer simulation). Unless we fund the live simulations that stress M1A2 crews and units in order to see that they are as well trained (or better trained), we cannot truly maximize a tank battalion with 13 fewer 120mm guns and 520 fewer rounds of main gun ammo. In sum, the acquisition of high quality weapon systems demands more, not less, live experience to meet their max potential! Training funds must be prioritized this way or all that we have put into systems like the M1A2 tank may never be fully realized in terms of enhanced combat capability — a fact that will further skew our battlefield expectations which are based on constructive computer simulations that assume that new technology automatically performs better.

As an aside, I'm not convinced that the young soldiers and leaders who join our Army today do so to perform their many go-to-war tasks in simulators. I think many join for the adventure of driving tanks, firing their weap-

ons, maneuvering their units, and feeling the excitement of a team effort securing an objective in the field. How many will stay if all they do is train in the relatively sterile world of virtual and constructive simulations? How many will have the true confidence in their battle-field abilities that only comes from getting their hands dirty?

Readers should not misunderstand where I am coming from. Virtual and constructive simulations will be vital to training the Force XXI Army of tomorrow. They are not, however, the panacea they seem to represent, nor should they dominate the so-called "second training revolution" as they are now planned to do. All this leads back to my fundamental premise. The performance of leaders, soldiers, and units in the field is what wins on the battlefield, not the performance of icons on a computer screen. We must build confident leaders and soldiers who know they can execute their METL tasks because they have done so under the most stressful battlefield conditions that can only be replicated in the field. If we are not careful, we run a serious risk of developing a wide gap in what commanders assume their units can do and what they can actually accomplish and will find ourselves continually questioning why we don't do it as well at the NTC as we did in the simcenter.

GUY C. SWAN III
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Cdr, 11th ACR
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USAREUR Maneuver Training: Overcoming the Limitations

Dear Sir:

The long awaited moment of taking my first platoon passed quietly enough in February 1997. Being in a divisional cavalry squadron, I anxiously awaited the challenges ahead of me. I was placed into a scout platoon, passing the tank platoon that is normal progression of a lieutenant. Within the first month of taking the platoon, I began to realize the restrictions placed upon me due to Conventional Armed Forces in Europe treaty, German-mandated quiet hours, Status of Forces Agreement, budget restrictions, and environmental concerns that would hinder aggressive maneuver training. These restrictions presented the question of how to train my platoon with little or no maneuver area.

I was a platoon leader for nearly a year and had the opportunity to maneuver my six M3A2 Cavalry Fighting Vehicles only once. The maneuver was during BT XII at a gunnery rotation consisting of no flank units or platoons and an operational area of 2 kilometers by 2 kilometers. Bottom line, realistic maneuver training is scarce in USAREUR.

The restrictions are being felt at the base level, the platoon. Platoons are just not able to get their vehicles out of the motor pool and

into the field to train on the most essential of maneuvers, battle drills. These drills are central to the success of crews, sections, and platoons and are deteriorating with each passing quarter. Without these skills, the higher echelons will be less effective in accomplishing their missions, putting soldiers lives on the line in the heat of battle as they learn their job instead of plying their trade.

To overcome the restrictions that govern USAREUR units, I propose increased utilization of HMMWVs. HMMWVs suffer from fewer restrictions on when and where they are permitted to operate. They provide excellent basic maneuver training for the section and platoon by providing a vehicle that is able to travel without having to be reported under the Conventional Armed Forces in Europe treaty, and are able to convoy during all hours of the day and are cheap to operate. The HMMWV is also host nation friendly, as it is doesn't tear up the highways and land as tracked vehicles do. All of this, combined with fewer logistical considerations, suggests that the use of HMMWVs would allow platoon and troop-sized elements to train maneuver more frequently.

The objective is to provide the platoon a viable means to train on battle tasks and give troops/companies the ability to train their METL tasks cheaply and more frequently. This could be accomplished through the use of HMMWV training companies attached to each brigade within the division. Each brigade would receive a company of 40 HMMWVs with a headquarters and maintenance slice to schedule the training and maintain the vehicles. The command element could consist of a commanding officer, executive officer, first sergeant, training NCO, and a motor sergeant. The training NCO would be assisted by one enlisted man and would be responsible for the scheduling of vehicle use and administrative affairs. The motor sergeant would be in charge of the maintenance section with 2 staff sergeants, 4 sergeants, and 12 enlisted personnel to ensure vehicle standards are maintained.

This would allow, for example, Troop B, 1-1 Cavalry to call and reserve 34 HMMWVs for a one-week exercise. They would then be able to sign for the vehicles, road march to Hohenfels, train the troop on their METL tasks and allow the platoon leaders the opportunity to maneuver their platoons. This not only affords the troop commander an opportunity to develop his platoon leaders, but also provides the soldiers the ability to train in their skill levels in a tactical environment. Battle drills and SOPs become solidified and units become lethal fighting forces. The final result, maneuver leaders and soldiers that are proficient at the basic tasks so essential for success at the battlefield.

Although maneuver is not the end-all solution to training in Europe, it is the essence of what we, as Armor, offer to the Army. Agility, maneuverability, and firepower able to move and react quickly to provide overwhelming firepower at the critical point at the critical time. Recent history has shown that the abil-

ity to move and control that movement is a requirement that cannot be ignored and must be trained. The addition of a HMMWV company would offer excellent opportunities to train battle command and battle drills so integral to the success of units. This maneuver training supplemented by a solid and well executed gunnery program, utilizing the UCOFT, chair drills, SIMNET, and PGSS/TWGSS provide the basis of knowledge for the capabilities and utilization of the weapons systems. Local training areas, although small, offer plenty of space to train new drivers and keep current drivers familiar with the capabilities of the vehicle, completing the training regimen.

The combination of local drivers training with home station gunnery programs and maneuver training with HMMWVs in the larger training areas, provide for a well rounded training program focused on building lethal, well-trained units from the bottom up.

TODD A. NAPIER
1LT, Armor

Today, Budget Cutbacks Dampen the Warrior Spirit

Dear Sir:

I read with great interest the two articles in the Jan-Feb issue of *ARMOR* dealing with the up-armored HMMWVs and their use in Bosnia. Being a member of the only cavalry squadron in the 25th Infantry Division (Light), I was particularly interested in reading about the pros and the cons of utilizing the HMMWV in peacekeeping operations. Both 1LT Byrom and LTC Prevou did a solid job of supporting their respective opinions, but it is a certain portion of LTC Prevou's article that most caught my eye.

LTC Prevou wrote that he was concerned with 1LT Byrom's excessive focus on "budgets, fuel efficiency, low wear and tear of roads, and protection of infrastructure." He asked if the Army is breeding a "generation of leaders more concerned with management functions than warfighting?" Unfortunately, these are issues that junior officers are forced to deal with on a daily level. With shrinking budgets and emphasis on doing more with less, today's leader is not always allowed to pursue the Warrior Spirit with as much vigor as in the past. Gone are the Team Spirits and other large scale maneuver operations where lieutenants and captains could work with their units without worrying a lot about getting reprimanded for collateral or environmental damage.

Instead, we have units conducting computer simulations because it is easier and cheaper. Unfortunately, this type of training deprives the junior leaders in the armor branch the opportunity to learn more about their vehicles, their men, and, most importantly, themselves in a field environment.

The U.S. Army of today is very different than the one of even seven years ago. Eight

fewer divisions and the "peace dividend" were supposed to make our army leaner, meaner, and better prepared for the future. This is not happening. Many junior officers are leaving our ranks due to frustration with the current situation. As a quick fix, the Army is promoting officers to 1LT and CPT six months earlier than in the past. This solution is only depriving those junior leaders of critical time with troops at the platoon level.

LTC Prevou's remark that a "cost-conscious, cautious, and careerist attitude" is perhaps infiltrating the Army is something to seriously think about. This is one of many reasons that many of my peers have decided to end their service to the country and pursue civilian careers. The Army is seeing too many highly qualified leaders leaving, and this is a sign that something is not right. I plan on staying in and seeing what happens in the next couple of years. Unless there is a change in how we do business, the junior officer's pursuit of the Warrior Spirit will continue to wane.

T.J. JOHNSON
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Take Pen in Hand, It's Your Journal

Dear Sir:

I am responding to your "Stand To" column, and the letter of LTC Stephen L. Melton in the March-April 1998 issue of *ARMOR*.

In civilian life, I have served as consulting editor of a refereed professional journal, guest editor of another professional journal, and editor of four other publications.

In none of my civilian experience have I found the free and open exchange of ideas I find in *ARMOR*. I know I will always read something in each issue that will start my mind racing with ideas. Part of this is due to the balance of articles the magazine contains, and using a thematic approach would not provide this kind of balance.

While LTC Melton is not interested in historical articles, such as those dealing with WWII, I find the historical articles on past battles very meaningful, because I think there is always something to be learned from the actions and decisions of those in combat.

I have no disagreement with LTC Melton's desiring more articles about what he sees as the future of Armor (he has in fact presented a very fascinating outline), and I would welcome these, too. However, as mentioned in this month's "Stand To" column, someone has to write the articles.

There are five staff members listed on the masthead of *ARMOR*, and none are identified as writers or correspondents. My experience tells me that there is simply not the time available for the staff to write regularly as well as edit and publish. The correspondents for the magazine are the professionals in the field.

It takes a tremendous amount of work to put together an issue of a journal like *AR-*

MOR every two months. Many civilian journals are quarterly, do not have photos, and thus the bi-monthly schedule of *ARMOR* is even more demanding. It is also more effective because it maintains continuity between issues that adds a freshness to *ARMOR* that other professional journals do not have.

Since LTC Melton is obviously clear-thinking and articulate, he would be a fine candidate to write the kind of articles he wants to see. The outline he presents in his letter would serve as the basis for at least several articles, but if he cannot write them, then perhaps he can urge a colleague with similar views to do so. I hope he does.

PAUL S. MEYER
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Officer and Armor School Historian

The Force May Get Lighter, But Tanks Still Have a Place

Dear Sir:

I refer to LTC Stephen Melton's letter published in the March-April 1998 issue of *ARMOR*. I can agree with him that the "Home of Armor" does not move at the speed of the "Thunderbolt" that is its symbol. I am sure you do know, however, that studies and analysis go on continuously as to how the Armored Force might contribute in the future. Since the days of mechanized cavalry, there has always been a light and heavy school of thought in the employment of armored troops. For decades, an armored cavalry officer and a tank officer had a different MOS and wore different collar insignia. I can only guess that the force will get lighter as the threat gets smaller and more diversified. However, it takes time and money to evolve the force structure and, for years to come, I believe the "tanker" and his 120mm gun will remain at the forefront of ground warfare.

I would like to comment on his remarks about *ARMOR Magazine*. As a retired Armor officer and a former editor of this publication, I can say *ARMOR Magazine (Cavalry Journal)* has had, and still has, articles that are far-reaching and thought-provoking. This journal is one of the most respected and emulated professional military publications in the world today, and has been since 1888. It is a historical masterpiece of original thinking and brilliant ideas, even if many of these ideas get lost in the constant battle for dollars and disagreements over roles and missions.

Now as to strategic mobility, light Armor concepts, and scout vehicles, I suggest to you a few articles published in *ARMOR* and written by this author over the years:

"Showdown at Echo Junction," May-June 1967 (This article came from my CGSC Monograph on Strategic Mobility.)

"An Approach to the Scout Vehicle Dilemma," September-October 1970

"The Case for an Armored Dune-Buggy," May-June 1971

"The Scout Mount 10-1," January-February 1973

"XR 311 - A Star Waits in the Wings," September-October 1977 (This would have been the best scout vehicle we ever had.)

"Fast Troops," September-October 1980

"Ground Mobility in Perspective (Wheel Versus Track)," January-February 1982

"A Missing Link in Support of Light and Heavy Forces (Mortars)," March-April 1989

Letter to the Editor: "We Must Learn From the Past," January-February 1994

Certain armor units are going to get wheeled armored vehicles. There is just in this thought because, since World War II, every armor R & D officer has known genetically from father to son, there were to be no wheeled armored vehicles accepted into the Army inventory for U.S. armor units. There is more truth in this than fiction. I know!

Finally, one area of development that bothers me and others is the evolution and proliferation of the hand-held shoulder fired anti-armor systems. They have become very accurate, with increased range and a more lethal warhead, especially against light armored vehicles. If we are to go into an Area of Operation where such weapons may be expected, our light armor people must develop doctrine. This must be in conjunction with other combat arms which insure our ability to both carry out the mission and survive.

BURTON S. BOUDINOT
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31st Editor-in-Chief
ARMOR Magazine

Don't Lighten Up The Combat Arm of Decision

Dear Sir:

Huzzah to MAJ Edgren! (Mar-Apr '98) We need to stop worrying about being something we're not (amphibious or light armor) and concentrate on being what we are: the combat arm of decision.

The point was made by MAJ Edgren that our purpose is to close with and destroy the enemy, utilizing shock, mobility, and firepower. That is what we are, period. We should be utilized when decisiveness is critical on the battlefield, not when a group of bandits need to be maintained behind a line that has been painted either by our government or the United Nations. Don't get me wrong, I'm not saying that purely dismounted infantry should handle these missions, or that infantry assigned to peacekeeping missions should not have armor support. What I am saying is that we should not be wasting precious dollars on trying to develop a light armored vehicle, when they could be more efficiently utilized by

training the soldiers that are already assigned to the Armor branch.

LTC Stephen Melton, in the same issue, says that he felt "slap(ped) in the face" by the Military Police branch, because they have developed the Armored Security Vehicle. No disrespect meant to LTC Melton, but an Armored Security Vehicle was developed because it meets the mission of the Military Police. That does not mean that it should be adapted to the mission of Armor (or that the mission of Armor should be adapted to the capabilities of the ASV). LTC Melton listed the characteristics of the advantages of a light wheeled vehicle versus a tracked vehicle. These were mobility, armor protection, firepower, shock, "ground reconnaissance over large areas with great speed" and high powered, mobile radios, capable of calling in fire support. The M3 version of the Bradley fits that bill and then some.

LTC Melton also accuses *ARMOR* magazine of being "dilatatory and backward-looking." I think that LTC Melton may be referring to *ARMOR* printing articles about previous battles, some from WWII. If LTC Melton reads the back of his membership card, he'll see that the Constitution of the Armor Association states that they are "to preserve and foster the spirit, the traditions and the solidarity of Armor..."

What better way to preserve and foster than to inform today's soldiers of the sacrifices that were made by our predecessors, and what better way to "promote the professional improvement of its members" than to show members things done right and things that could have been improved in previous battles.

Too many people are proposing the LAV as a solution. The LAV may be a viable solution to the 82d Airborne's lack of armor support, and I will go on record to say that option should be researched, but it should not be used to replace the M3 Bradley.

There have been many arguments that there are no modern enemies for heavy forces, but I disagree. As long as there is an enemy that might take the field against us, we should be prepared to utilize our greatest power against them. Nothing would be more demoralizing to a "poorly armed opponent" than a company team of M1s and M2/M3s screaming across a battlefield, hurling high explosives many times further than their small arms could even hope to achieve. Once again, Huzzah MAJ Edgren!

GARY F. BONANNO
CPT, Armor
CA ARNG

Continue the Mission, Then Be Sure to Fix the Problem

Dear Sir:

I was very pleased with CPT John Basso's article, "M1A2: One Year Later," January-Feb-

ruary 1998 issue; however, there is a statement in the article which needs to be clarified. The article discusses the crew's use of the Prime Power Interrupt (PPI) or power-cycling to work around a suspected software or hardware fault allowing the tank to continue its mission. CPT Basso discusses the capability of the tank, through the use of redundant systems, to find a way around the fault when restarted.

One could infer from the article that due to the redundant features of the M1A2, a piece of faulty hardware could go undetected only to be discovered at a later date. This is not the case.

The M1A2 tank is a complex system, and similar to a desktop computer, problems in the software, hardware, or user's interface to the system can occasionally occur which require the crew to cycle power or use the Prime Power Interrupt (PPI) on the tank. The analogy to the desktop computer is the Control-Alt-Delete function we have all utilized to clear an apparent system lockup. This feature is used to reboot the tank's electronics systems and alleviate or work around a "lockup" or unusual condition; however, rebooting the tank will not result in a hidden hardware defect. Beginning at power-up and throughout operation, the tank's self-test feature is functioning in the background, invisible to the crew, and will report cautions and warnings to the crew. In many cases, the crew can continue operating the tank after resetting the caution, but the caution will remain active and will be added to the caution/warning summary page on the commander's display. In some cases, where there is an intermittent failure, a caution can appear which will be erased if the problem does not reoccur. The crew should provide the defects listed on the caution/warning summary page to unit maintenance in order to troubleshoot.

The primary redundant feature in the tank is provided by the Turret Electronics Unit (TEU) and the Hull Electronics Unit (HEU). These two line replaceable units (LRU) control the data bus traffic and the power management of all the tank LRUs. When one of these units, either the TEU or the HEU, break down, the other unit will take over the control of operations for the entire tank (data bus and power management control).

When this occurs, the crew will receive a caution advisory via a display unit that the TEU or HEU has developed a critical fault. The tank remains operational; however, the crew is advised to report the fault to unit maintenance in order to properly diagnose and repair the defect. At the maintenance unit, the crew can utilize the tank's Built-In Test and Fault Isolation Test capabilities to troubleshoot and correct the problem.

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Maneuver Warfare Supporters Begin with Faulty Premises

Dear Sir:

I will begin with an apology and an explanation. I am writing in response to MAJ Vandergriff's article, "Without Proper Culture: Why Our Army Cannot Practice Maneuver Warfare." I apologize for the late date, however, I did not receive that issue until the end of March.

I should first state that MAJ Vandergriff raises some legitimate concerns, and in regards to his assertion that our personnel management system often does promote unworthy officers and NCOs, I agree with him. However, MAJ Vandergriff makes some rather large assumptions, and uses either poorly understood terms, or prejudicial ones. This is aside from the fact that he never proves his main point.

In my Intro. to Anthropology class, *culture* was defined as the totality of a given people's material and spiritual effects. The half-stated assumption in the article is that maneuver warfare is superior to the style practiced now. The German army was able to practice maneuver warfare: ergo, the German culture, at least in regards to its ability to wage war, is superior to our own. The reason, stated but not proven, is that the Wehrmacht's soldiers showed more initiative than ours did or do now. I urge all my fellow soldiers to carefully consider whether or not this is the case. I would argue that MAJ Vandergriff, and the maneuver warfare doctrinaires, have started from a faulty assumption, and continued their arguments from that point. The discussion, in my mind at least, should be whether or not the proposed system is better, where it differs from our own, and how we can best blend the two together.

Once again, I am saying MAJ Vandergriff does have an argument, and several very good points. For example, how many of us have never spent hours of night time copying intricate graphics that bore very little relation to the battle as it unfolded. In the unit I now serve with, it is not unusual to get bad photocopies of the graphics superimposed upon a black and white map, and both are totally unreadable. I throw them away, and do the mission — an example, in my mind, of fine initiative shown. MAJ Vandergriff is quite correct in stating that this sort of thing is the result of a 'zero defects mentality.' Whether or not this is the result of our culture is another matter.

Finally, and most importantly, MAJ Vandergriff consigns us to defeat and dishonor. To quote: "These negative practices will result in defeat on tomorrow's battlefield." This is a sweeping statement, and I was aghast at it

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when I first read it. The mildest thing I can say is that it is an unproved conclusion drawn from faulty assumptions. As serving soldiers, it is our duty to train our soldiers to win on the battlefield. How can we do this if we believe defeat to be inevitable? If we really believe this, then why are we continuing to draw pay and wear funny clothes?

MATTHEW D. STANCHFIELD
SFC, MT ARNG

Marine Light Armor Tested "Global Cavalry" Concepts

Dear Sir:

The ideas contained in "Global Cavalry" are becoming more and more important as the U.S. Armed Forces further evolve into a joint force for the next century. Light armored forces can provide a unique capability to the warfighting CinC. The Marine Corps has been looking hard at this concept for the last two years. Many of the concepts put forth in Captain Riggs' article were put to the test during Exercise Deep Strike, conducted in the American Southwest in the summer of 1997. It provided some insights which may be helpful in further developing the ideas presented in the article.

Captain Riggs argues that a strategically airlifted light armored force can provide "...a rapidly deployable mounted force to get where it is needed (within hours) and have credible combat power once on site." The Marines have tested this concept principally, but not exclusively, from a maritime perspective. The Deep Strike Force was organized with a modified MAGTF structure, consisting of a TF Command Element, primarily sea-based CSS and Air Combat Elements, and a Deep Maneuver Element deployed ashore composed of three light armored reconnaissance battalions. The force was introduced into an immature theater by multiple means; a 900 km overland road march from a friendly host nation (Utah); by operational maneuver from the sea by a naval expeditionary force (off the coast of Southern California) and by strategic airlift into a 'safe haven' (in Arizona) seized by, in this case, a helicopter-borne force.

Light armor offers great flexibility in projecting forces. The article puts an emphasis on the forced entry of light armored units into a land-locked theater. Light armored forces can be introduced by strategic airlift; however, for Marine light armor to forego maritime sustainment for an extended period of time, Deep Strike planners determined that:

(1) A safe haven (including an airfield) had to be seized prior to the LAV force's arrival.

(2) A sizable light armored force could be quickly landed at the airfield (lift capability ranging from 8 LAVs per C-5 to one LAV per C-130).

(3) A robust CSS capability had to be established at the safe haven.

(4) Heavy forces (one company of M1 tanks) had to arrive at the safe haven (NLT D+3).

Thus, the land-based tactical footprint of LAV units becomes more extensive and more complex if sea-based support is severed. Regarding the ingress of airlifted LAV forces, we did not explore the problematic issue of a forced entry by LAVs via aircraft without securing the landing sites by infantry forces. If the situation is sufficiently developed, perhaps a minimal control agency (probably provided by TF SOF) could insert pre-D-Day and guide the LAV-laden aircraft to their landing sites. If inserting an 'LAV-pure' battalion/squadron is difficult, then getting them out is more so. Only when planning for short duration limited (company raid) operations does the footprint at the departure site become small enough to quickly egress an LAV force by air.

It is impossible to create a viable light armored force on the battlefield that is not built around a Family of Vehicles. The essential mobility, survivability, and supportability of Marine light armor is built upon this fundamental. Direct fire weapons, antitank missiles, and indirect fire mortar vehicles are on one LAV chassis. One strength of Marine light armored forces is that the company and battalion combat trains are equipped entirely with LAVs; only battalion field trains are not composed of LAVs. This allows an LAV-pure force to maneuver on the battlefield, often for days, with unprecedented independence of action.

As the author points out, light armored forces depend upon "the effects that the organization can bring to bear." LAV forces need weapons that kill their opponents. That is the factor in optimizing the lethality and survivability of LAVs. When weighing the tradeoff between less crucial factors, such as mobility, and armor protection, LAVs should lean heavily in favor of mobility. If you have a weapon(s) that can destroy your foe, the need for armor protection "equal to or greater than that of the BFV" is secondary to vehicle mobility and agility.

The author's proposed troop structure is fundamentally sound. The need for organic 120mm mortar fire support is critical and the rake/mine detector capability will be effective in reconnaissance missions. The ability to receive data from ASAS, UAVs, and Joint-STARS should provide the situational awareness needed on the modern battlefield. One problem area is the LAV-90mm/105mm gun. LAV hulls are poor platforms for large caliber guns. A more likely solution would be the TOW or LOSAT. It is more probable that a 'fire-and-forget' missile system or energy weapon will be developed before a large gun can be made for an LAV hull.

At the LAV battalion/squadron level, the independent nature of LAV forces brings one command and control issue to the fore. The author points out that a robust C⁴I capability, or lack thereof, will make or break an LAV force. Due to the operational distances involved when deploying an LAV force, many tactical information systems are stretched to

the limit. Tactical satellite communications are essential for all maneuver battalions. A key requirement for LAV forces is the ability to use satellite communications while on the move. This is often the C⁴I Achilles heel of LAV forces.

Captain Riggs makes a compelling case to create a light armored option for the warfighting CinCs. The foundation for his squadron/troop structure is solid. Is he replicating a capability already extant in the Marine light armored reconnaissance battalions? Perhaps so. The current Marine structure possesses the capabilities of Captain Riggs' "global cavalry," to greater or lesser degrees, save one: The detailed and comprehensive C⁴I architecture. The author builds a unit that would allow the light armored force to operate independently in the joint arena. The big question is: Is the C⁴I difference significant enough to warrant the investment in resources and structure to create a global cavalry capability within the United States Army?

LTC MICHAEL M. WALKER, USMCR
Commanding Officer
4th Light Armored Reconnaissance Battalion

Best "Global Cavalry" Mounts Are M113s, Not LAVs

Dear Sir:

In "Global Cavalry," *ARMOR*, Mar-Apr 98, CPT Riggs argues convincingly for a "mounted rapid deployment force." The article seems well thought out, in every aspect... except for one: Like so many articles and letters before, CPT Riggs wishes to equip this cavalry force with variants of the USMC LAV.

LAV proponents continually ignore the reality that the leadership has said **there is no money** to buy a new light armored vehicle that would be unique to one or two units. Why would the Army be willing/able to buy LAVs, when it can't/won't purchase XM8s?!

There is a fiscally-viable alternative, however, and it's already in the system: The M113 APC (and certain of its variants). The M113 is the equal of the LAV in most respects, and superior in some.

Categories where the M113A3 and the LAV-25 are equal:

- Armor protection.
- LVAD/LAPES capability.
- Swim without preparation.
- CH-47D transportability.
- Combat weight.
- Acceleration.
- Cross-country speed.
- Maximum grade climbed.
- Vertical wall crawled over.

Areas of LAV-25 superiority:

- Stabilized, turret-mounted, 25mm cannon.
- Much higher road speed.
- Greater cruising range.

-
- Maximum trench width that can be crossed.

Areas of M113A3 superiority:

- Armament can be "tailored" to mission requirements.
- Can carry almost twice as many dismounts.
- Externally-located fuel tanks.
- Track is less vulnerable to damage from small arms fire, flame, debris, than are tires.
- Maximum side slope that can be traversed.
- Minimum turning diameter.

It is only necessary to look to the Vietnam War to see that M113-variants have been successfully employed — **in combat** — in all of the roles envisioned by CPT Riggs. We don't need to buy a new light armored vehicle — we need to make full and effective use of the one we've got!

STANLEY C. CRIST
San Diego, Calif.

Correction

Dear Sir:

A correction to the article, "Back from Haiti, then on to Bosnia, The Army's "Light ACR" remains "Always Ready," (Nov-Dec 97) is in order. The Regimental Aviation Squadron did not relocate from Fort Benning, Georgia, as published but from Fort Bragg, North Carolina.

Incidentally, in August 1997, the squadron deployed its 31 OH-58D (I) Kiowa Warrior helicopters and 15 UH-60 Blackhawk helicopters to Bosnia. After a trip spanning 5 countries, the squadron closed on Comanche Base in early October, assuming all responsibilities for aviation in Multi-National Division North on 17 October 1997.

To date, the squadron has flown nearly 5000 hours in support of Task Force Eagle. The squadron remains an integral part of the regiment in Bosnia. Consistently developing air-ground integration with the Cougar and Wolfpack Squadrons, the "Winged Dragoons" also provide support to the Danish, Swedish, Polish, Russians, and Turkish elements that make up Task Force Eagle.

DAVID L. LAWRENCE
LTC, AV
Commander, 4/2 ACR

Author Seeks Respondents

MAJ Donald E. Vandergriff, a frequent *ARMOR* contributor, is preparing a new book entitled *Atmosphere of Thought: The Impact of Institutional Culture on Combat Effectiveness*, which deals with reform of the Army's culture and personnel policies. He is seeking retired general officers willing to complete a questionnaire assessing their opinions of these subjects. His address is 12852 Mill Brook Court, Woodbridge, VA 22192.