

Armor at a Crossroads (Again)?

by LTC Andrew Morgado

*“Today the U.S. Army is again facing new challenges. When the historians review the events of our day, will the record for our Army at the start of the 21st Century show an adaptive and learning organization? I think so, and we are committed to making it so. We are leveraging the momentum of the global war on terror to transform our Army’s organization and culture. Our Army leaders and Soldiers are responding magnificently to significant organizational changes by demonstrating initiative, resilience and innovation at all levels. Even while modern technology is evolving with incredible speed and dramatically improving our capabilities, our most important resource remains our people. Self-aware, thinking Soldiers and leaders build learning, adaptive teams and organizations. For the 21st Century, we must have an Army characterized by a culture of innovation and imagination.” – GEN Peter J. Schoomaker, foreword to 2007 edition of *Learning to Eat Soup with a Knife* by Dr. John A. Nagl*

The death knell of the Armor Branch, specifically challenges to its utility in current and future conflicts, has been sounded many times over the course of my 18-year career as an Armor officer. Not unique to my relatively short tenure in the Army, this reevaluation of relevance for the “combat arm of decision” normally centers on the limiting weight of our platforms to deploy; on questioning the necessity of heavy armor against adversaries that will not challenge us conventionally; or on the great cost of sustaining such a force in times of financial constraints. In previous challenges, an external event has intervened that allowed a delay in the final reckoning – namely, Saddam Hussein’s invasion of Kuwait and the need for firepower and protection in invading Iraq and for close urban fights. Though these interventions have perhaps “saved the branch,” the institution can no

longer count on such “miracles.” Armor is clearly at a crossroads and must define its role through a deliberate, intellectual process.

The genesis of this observation was my attendance at the 2012 Reconnaissance Summit, ably summarized by CPT Michael P. Stallings in the July-August edition of *ARMOR* (“2012 Reconnaissance Summit EXSUM”).¹ Although its participants were engaged, intellectually stimulated and actively participated in debating the future role of reconnaissance (and thus closely tied with the future of Armor), many left with the impression that we were engaged in “pouring new wine into old skins” and the conclusions of the conference were pre-ordained. The future vision looked much like the present. As a result, participants were trapped in discussions about tactics when – in this period of great transition and in what may be viewed later as an “interwar period” – our thoughts should have turned to the operational and strategic questions on which the future of our mounted force will truly depend. Our emphasis on capturing the tactical lessons we have learned in more than a decade of war in Iraq and Afghanistan may be blinding us to the real needs of defining our roles in wars of the future.

Shimon Naveh, in his book, *In Pursuit of Military Excellence*, studies the evolution of operational art. Though his work focuses on the progression of operational theory and its application, culminating with the American Army’s application of operational art in the first Gulf War, his thesis hinges on the cognitive dimension of war and how different armies applied varying techniques to solve (or not solve) current and future challenges at critical crossroads. One of his greatest critiques was on the hab-



PFC Paul Conaway from 1st Battalion, 6th Infantry Regiment, 2nd Brigade, 1st Armored Division, completes his radio checks on the M1A2 Systems Enhancement Program tank at his motorpool located at Fort Bliss, TX. (Photo by LTC Deanna Bague, Brigade Modernization Command)

it of some armies to emphasize tactical excellence at the expense of what truly matters in the prosecution of war. One can summarize Naveh's thesis as "accumulating tactical success, as great as they may be, if not backed by professional, operational direction expressed by means of rational and coherent objectives may end up in a fiasco."² This is the fundamental challenge to Armor, a debate confined to a narrow and limiting set of problems viewed in a tactical context. We must set our sights higher and think on a different plane if we are to avoid a "fiasco." The stakes are simply too high to blindly adhere to the status quo. If we are to be relevant as a branch, our arguments must transcend the tactical and be tied to providing our Army, and therefore our nation, an operational and strategic rationale for our existence.

The maneuver community must address four key topics: how armored forces must be organized; how to take advantage of emerging technologies; what will constitute the principal maneuver platform (or platforms); and how to build consensus within the combined-arms community to be part of a true, comprehensive and integrated modernization strategy. The challenges to the utility of the Armor Branch are complex, interrelated with the larger "system" of Army modernization. This identification and discussion of the named four areas are long on pointing out the problems and quite short on presenting solutions. I am willing to weather the challenges of heresy, as this is not a challenge to a life I have known but an encouragement to reflect and influence positive change. This article is intended to launch the first (and it may be the last) salvo in the debate, but this intellectual exercise is too important to allow it to go on unaddressed.

Organizationally, our armored force has not undergone a significant organizational restructure for more than 40 years. The armored warrior of the early 1970s would easily recognize the basic structure of our tank and scout platoons, as well as our armor companies and cavalry troops. Echelon structures and even task-organization practices have remained consistent. Despite great increases in lethality and the addition of several communications, position-location and mission-command appliques, we have not verified that this basic structure still makes tactical and operational sense. Naveh warns that we cannot limit ourselves to simplicity or what may have worked before when he writes, "The logic of this approach [assumes] that simplicity and lucidity were the key factors in military success. The utilization of these qualities in operational planning dictated, almost inevitably, the application of a direct or rather frontal approach in practical combat. However, since energy is the most common substitute for sophistication, one can always compensate for any apparent lack of insight with physical boldness."

Too much has changed to assume the same structure will apply to all situations. We now make the assumption that what we will see will look a lot like what has gone before. With the exponential rate of change in technology, this is becoming increasingly problematic. Integrated networks, sensors and beyond-line-of-sight killing systems are all developments that offer complex challenges to the old way of doing business. One of Naveh's biggest critiques of the German blitzkrieg was that it was a tactical system with no operational aim and thus was strategically incoherent or, conversely (due to Nazi Germany's unique strategic-leadership structure), its lack of strategic coherence caused a wasting of this tactical success.

Moving armored forces in a wedge, V or staggered column may be rendered completely irrelevant by the ready availability of sophisticated technologies in the hands of multiple enemies or by an adversary that will undoubtedly use complex terrain to his own advantage. Do we really need four tanks to move together? Is a company team of tanks, Bradleys and trucks really the best combination? We are also learning that that relatively "dumb" technology will befuddle our most state-of-the-art systems. Ar-

mored forces will compete against both ends of the technological spectrum. How the armor force uses technology also has other implications.

Technology has never been, and may never be, the absolute solution to tactical or operational problems. The temptation to rely solely on technology to solve our operational problems has been revisited several times throughout our recent history. The most notable and recent examples include the "revolution in military affairs" or even "shock and awe" as basic principles. Naveh warned that both in the first and second world wars, "[c]ommunication technology generated an illusion of control. ... Hence, the communication illusion, which was generated by the devices technology provided, created deceptive faith in the absolute, centralized but effective mode of command. It encouraged the military leadership to ignore the factor of randomness and the principle of the inner-system cognitive tension, and to repress the healthy penchant for tactical initiative."

This same admonition is still applicable today, as many would advocate a complete revocation of the old way of doing business due to the apparent omniscient qualities associated with some of the current technologies. Although technology is not the cure-all, the Armor force has gone from representing the epitome of technological progress to being the laggard. As G-3 of the Brigade Modernization Command, responsible for evaluating the integration and evaluation of the Army's No. 1 modernization effort – the network – it is clear to me that Armor and heavy platforms are falling behind. Greater situational awareness now resides with the basic rifleman than with a tank or Bradley commander (or even that of an armored-company commander).

For example, the Army is preparing to field Capability Set 13, whose backbone is the Warfighter Information Network-Tactical, to the first eight brigades; only two of these are projected to be heavy brigade combat teams (one of these is 2/1 Armored Division, a testbed for these systems, currently attached to BMC). With the exception of one HBCT and 2/1 AD (a hybrid motorized and mechanized force based on an augmented modified table of organization and equipment; it also fields and maintains a standard HBCT set of equipment), the other Capability Set 13 recipients are infantry brigade combat teams.

Size, weight, power and cooling issues continue to challenge the integration of the most advanced technology we have to offer onto the current backbone of our armored force – the M1A2 Systems Enhancement Program tank and the M2A2/3 Bradley. Recommended solutions are a combination of systems that are engineered and integrated in a very deliberate process to enable a heavy platform with useful mission-command applications. If we are challenged in enabling our armored platforms with the highest development of our digital systems, how relevant is the tank and Bradley?

The venerable Abrams and Bradley platforms are entering their fourth decade of service and are projected to continue serving well into the next decade. The limitations of our current combat vehicles (tanks, Bradleys, Strykers) are well-known: not easily deployed, weight constrains maneuverability or, in the case of the Stryker, not as survivable. The high rate of fuel consumption, the physics of transporting bulk fuels to austere locations and the high cost of keeping the fleet fueled are now constants and will not go away.

Our efforts at achieving efficiencies at operational energy are only attacking the margins while the 800-pound gorilla – Abrams fuel consumption – remains largely ignored. This is not to degrade the Abrams' or Bradley's performance. Our current combat systems have served us well – with firsthand experience I can testify to their effectiveness in Iraq – but we have not adequately addressed what the next platform needs to look like and



A Soldier from 1st Battalion, 35th Armored Regiment, 2nd Brigade, 1st Armored Division, takes a defensive position during movement-to-contact training using the Rifleman Radio at Dona Ana Range, NM. (Photo by LTC Deanna Bague, Brigade Modernization Command)

do. Only the wheel vs. tracked debate (that regularly resurfaces in the pages of *ARMOR*) seems to be the only platform-modernization problem that receives any attention in professional journals. Are we completely committed to the Abrams and Bradley simply because there are no viable alternatives? Must our thoughts be so linear and constrained? Are semi-autonomous weapons just too far out of reach? There is also a tendency to find a platform that “does it all,” forcing compromises in firepower and protection (and thus weight) that leave us with the worst of both worlds. Soldiers in the current fight still need an Armor platform, and interim solutions may be necessary, but we also need to look to the horizon. The solution may lie in bringing together organizational, technological *and* platform changes together in a well-thought-out developmental process.

Naveh credited GEN Donn A. Starry as the critical figure in making air-land doctrine (Naveh’s supreme example of tactical-operational-strategic coherence) work because he created consensus in the development of the winning doctrine. Naveh writes, “Starry encouraged creative independent thinking and dynamic production of operational ideas at all levels of existing services and combat arms. At the same time he provided the system with the authority to judge and the tools to select and assemble the various concepts into a complete and logical doctrine. Starry [laid] down three essential cornerstones. ... [First] the formulation of any operational concept can be initiated by any echelon. ... [S]econd, examining the concepts, articulating them within the ideas constituting the fabric upon which the complete doctrine is supposed to rest should be conducted by the [U.S. Army Training and Doctrine Command] Deputy Chief of Staff for Combat Development. ... And the final stage of writing relevant doctrine must be performed by the Combined Arms Center.”

GEN Starry built consensus for his ideas before codifying them in doctrine.³ He understood the context within which he operated.

Naveh went farther back in history, to the Duke of Wellington, to offer another example of a military officer operating effec-

tively within constraints. Naveh noted that Wellington “perceived accurately the politician’s expectations of him, was fully aware of his operational limitations, defined his enemy’s tactical limitations and operational weaknesses with great precision and, finally, was aware of the nature of his theater of operations.”

Similarly emphasizing the cognitive component of soldiering, and to give Wellington’s nemesis equal time, David Chandler expressed, “I know of no example in war which offers clearer evidence of how the numbers and morale of troops, important features as they are, may be overmatched by the weight of one person of genius.”⁴ The age of Napoleon is long gone, but we cannot underestimate the power of genius, or at least clear thinking, to get us beyond what we know now. Whether defining the next battlefield, anticipating the vagaries of future political debates or sequestration, we are faced with similar challenges and have similar opportunities and pathways.

The same tools available to GEN Starry are still resident, though on an institutional level, the Army must reinvest its human capital back into the generating forces as the tempo decreases in the operating forces. When the resourcing aspect is resolved organizationally, the structures for well-developed modernization are still in place.

For example, the Army Capabilities Integration Center is the son of DCSCD and serves as the architect for the Army of the future. TRADOC and ARCIC, with its integration of combat developers throughout the Army’s centers of excellence, are well-positioned to refine requirements, challenge current assumptions and operationally test new concepts. BMC (subordinate to ARCIC) and its “triad” partners of Systems of Systems Integration Division (a division of the Assistant Secretary of the Army-Acquisition, Logistics and Technology) and Operational Test Command (subordinate command of Army Test and Evaluation Command) form the foundation of the Army’s modernization and integration efforts. In simplest terms, TRADOC generates a list of

capability “gaps,” SOSI assists in generating material solutions and ATEC/OTC applies the rigor of scientific testing procedures, while BMC evaluates the potential solutions in an operational context in the hands of tried-and-true, Forces-Command-brigade-combat-team-assigned Soldiers.

The triad executes network-integration evaluations twice per year at Fort Bliss, TX, and White Sands Missile Range, NM, offering two opportunities per year to test capabilities in an operational environment. In every NIE that a “heavy” platform or concept is not tested, the Armor force drifts further away from the mainstream of modernization. The NIE is a unique opportunity to exercise concepts in the field and leverages the most cutting-edge ideas and systems our Army and industry partners have to offer. Soon, incremental change will not be desirable or even possible for the Armor force. The divergence in modernization will soon demand a radical departure from what we know. That time may be upon us now. The development and progression of the Armor or heavy force cannot happen in isolation. Charting the way ahead is a give-and-take process that cannot be measured in available 19-series coded commands but in how well-integrated are heavy forces into the overall operational and strategic concept. Learning is the essential component.

In John Nagl’s book, *Learning to Eat Soup With a Knife*, the author addresses the required attributes for a learning military organization. Using Richard Downie’s “institutional learning cycle” model as a basis of analysis,⁵ Dr. Nagl addresses adaptation within military organizations. Nagl compared the British experiences in Malaysia and the American experiences in Vietnam as case studies of how an army adapted or alternatively failed to adapt to new circumstances. It is more than just history or context that shapes the organization. Nagl stresses it is what an organization “does” with these previous experiences that makes the difference. Contextual and situational differences in each theater aside, Nagl observes that, “[T]he British Army had few problems creating internal consensus that change was needed. ... [A]n innovative and varied past created a culture amenable to the changes in organizational process required to defeat a complex opponent. ... [T]he organizational culture of the American army permitted no doubt in the Army’s leadership. ... [A]n unshakeable belief in the essence of the organization precluded organizational learning.”⁶

Nagl’s book is a cautionary tale of how a good organization benefits from “seeing itself” and using self-regulation to make changes, while poor organizations miss or ignore the proper cues. He also highlights the dangers of envisioning your enemy and his capabilities in a way that only fits only your preconceived method of waging war. We as an Army cannot fall into the same trap of narrow thinking or allow organizational ossification and bureaucracy to stop the learning process. We must reward thinkers, even disruptive ones, to have an opportunity to break beyond what we understand now. With openness, we must also have the courage to entertain new concepts and the ability to test these concepts in an operational environment. Out of many ideas, some will be good; many will be quite poor. That is why experimentation, evaluation and testing are essential. How will history judge GEN Schoemaker’s assessment in the epigram of this essay? Have we truly been innovative in solving the current crisis in Armor? It is one thing to “say” we encourage innovation, and it is quite another to actually inspire such activity.

Paraphrasing Mark Twain, the reports of Armor’s death have been greatly exaggerated. Though a parochial assessment on my part, I am convinced Armor remains a relevant factor in future warfare. Armor officers and Soldiers provide a competent and broad-minded cadre of warriors who think in three dimensions,

are adept at integrating combined arms and are battle tested. We just can no longer rely on old modes of thinking. We must challenge our organizational structures and how we employ technologies; consider a truly innovative platform or platforms; and lead the Army effort in jointly charting the way-ahead for the heavy force. We cannot linger on the “good old days” or hope for a peer competitor to sound the trumpet and resurrect the heavy formations of old. The underlying assumptions, which we must convince others are facts, are that mobility, protection and firepower will be required on the battlefield, regardless of the environment. Perhaps we resurrect the Napoleonic adage that “without cavalry [or armor], battles are without result.”⁷ Most importantly, we must be organizationally open to change, even drastic change, and be a learning institution.

I am sure the reader who expected to read a series of concrete recommendations to resolve these problems is greatly disappointed. This essay has raised many more questions than it has answered (I am not sure if I have answered any), but that was the aim of the entire exercise. The future is uncertain, but before we can field a force capable of defending our country and its interests, we must wage a friendly war in “the field of cognition” to chart the course ahead.



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Notes

- ¹ Stallings, Michael, “2012 Reconnaissance Summit EXSUM,” *ARMOR*, July-August 2012.
- ² Naveh, Shimon, *In Pursuit of Military Excellence*, Portland: Cass, 1997.
- ³ Naveh.
- ⁴ Chandler, David G., *The Campaigns of Napoleon*, New York: Scribner, 1966.
- ⁵ Downie, Richard, *Learning from Conflict*, Westport: Praeger, 1998.
- ⁶ Nagl, John A., *Learning to Eat Soup with a Knife*, Chicago: Chicago UP, 2005.
- ⁷ Chandler.

ACRONYM QUICK-SCAN

AD – armored division
ARCIC – Army Capabilities Integration Center
ATEC – Army Test and Evaluation Command
BMC – Brigade Modernization Command
DCSCD – Deputy Chief of Staff for Combat Development
HBCT – heavy brigade combat team
NIE – network-integration evaluation
OTC – Operational Test Command
SOSI – Systems of Systems Integration Division
TRADOC – (U.S. Army) Training and Doctrine Command