



# SMALL WARS

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## JOURNAL

## Challenging Army Force Design

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### Challenging Army Force Design

E.J. Degen and John Spencer

As the Army resets after protracted wars in Iraq and Afghanistan it is an appropriate time to challenge existing Army beliefs about force structures and design. Many inside and outside of the beltway have opined on the optimum force structure and design the Army should have for future contingencies. Most of these arguments are based on “best professional military judgement” as opposed to thorough analysis and experimentation. The present opinion-based discussion relating to the “McGregor Transformation Model” is a perfect example of this.<sup>[1]</sup> Fortunately, the Army has recognized a time of change and has begun to look towards the future. For Army planners to consider what the Army of the future should look like, they need to shift to a model based on experimentation and analysis.

The optimum force structures for the full range of military operations (ROMO) in an uncertain future will only be obtained if we challenge the “facts” and “assumptions” used in previous transformation efforts, apply available science to force design, and develop different models and practices for experimentation. There are also gaps in the analysis tools and processes that are needed to support decisions about shaping the future force. All of these concerns, combined with constraints on thinking about force design and force structure, may prevent the Army from preparing the force adequately for the future.

There are thirteen critical facts and assumptions that underpin thinking about Army force design, structure, management, and employment (tactical and operational). All of these should be explicitly recognized and then analyzed to determine if they should continue to guide Army thinking. If the Army does not grapple with these, the Army of the future will likely evolve into a smaller version of what it is today. We will address these in separate discussions of force design, force management, and force employment.

### *Force Design*

**Assumption: General purpose forces best allow the Army to react to emerging threats and requirements.** The Army’s Brigade Combat Team (BCT) structure is designed for a specific, generally offensive mission, but it can also adapt to any mission along the ROMO. Three BCT types (light, stryker, and armor) are believed to provide the most optimum menu of force capabilities for senior leaders to apply against most military problems. Even with the variety of equipment, training, and organization of these three types of designs, each design is still a generalized model (as opposed to a specialized model). The general purpose force (GPF) is by nature not specialized against a mission, environment, enemy, or problem. This is not optimization, but rather generalization. It is not possible to optimize for general purposes.

**Assumption: If you man, equip, and train a unit to conduct combined arms maneuver (CAM) all other missions are of lesser difficulty.** As stated above, Army formations are designed for a specific, although general, mission. The scenarios and plans used to design army units center primarily on major combat operations. These operations involve both of the Army's core competencies of combined arms maneuver (CAM) and wide area security (WAS), but the underlying premise to the army's organizational designs (to include equipping and training) is that if units can execute the high end of the spectrum of military operations (specifically combined arms maneuver) they can also do and accept risk in all other missions because they are less difficult.

**Assumption: The Army is designed, structured, and sized to Win from the operating concept of Prevent, Shape, and Win.** This assumption combines both previous assumptions about a general purpose force and a force designed for combined arms maneuver. If the Army structure and units were truly designed and optimized for combined arms maneuver oriented at Phase 3 of joint operations, it would have a specialized design. Such a design would focus doctrine, organization, training, leadership, personnel, and other variables on direct action combined arms maneuver rather than a combination of multiple competencies such as those required of wide area security.

**Assumption: The frequency, the echelon at which it takes place, and the extent of task organization should not be viewed as a symptom of faulty organizational design.[2]** If this assumption held true, no matter the amount of task organization or reforming an organization did, it would not be an evaluation of its design. Force design is intended to minimize the amount a specific force structures will have to change (measured in time and energy) against their assigned missions. There is no informed knowledge on whether the design is appropriate to the problems the Army has been given without feedback regarding the amount of change occurring.

### *Force Structure*

**Fact: The Brigade Combat Team (BCT) is the building block of Army force structure and one of the major force elements for joint processes.** The Army has a modular, brigade-centric force structure, and it is the major building block used in almost every planning or decision making venue concerning army forces, including: Army Force Design, Force Management, and Total Army Analysis and joint processes such as the Quadrennial Defense Review, Strategic Choices and Management Review, and Joint Forces Analysis.

**Fact: Before the implementation of modularity in the Army, the prevailing orthodoxy was that the division structure provided commanders a depth of capabilities that readily enabled them to shape the battlefield, react to contingencies, and exploit opportunities. Redundancy seemed prudent if one was to slug it out with a peer adversary.[3]** This fact is an attribute of a force structure designed towards peer or near peer adversaries. The transformation to a modular-brigade centric force structure included decisions to orient against the enemy and environment the Army faced at that time (insurgents in Iraq and Afghanistan); not a near peer adversary.

### *Force Management*

**Fact: The Army develops force packages of capabilities that are expected to shape the environment rather than shaping force packages for the environment.** Army concepts state that the Army will "shape the operational environment and win the Nation's wars as part of the joint force."<sup>[4]</sup> The Army's self-imposed force management and design processes attempt to optimize for general problems in general environments. It assumes the capabilities designed for these situations will allow military units to shape most operational environments in a way conducive to success. In the future, perhaps a more relevant approach may be to let the environment shape the force package sent to deal with the adversary and

environment. This may be especially true in mega-cities.

**Assumption: Full unit replacements in combat operations are better for relative combat effectiveness than individual replacements.** This assumption is mostly based on unchallenged beliefs and antiquated research regarding unit cohesion, Soldier and leader resilience, and on what collectively contributes to the most combat effective units. It superimposes the context of the draft Army operating in Vietnam on the current all-volunteer force. Mission variables and force requirements are vastly different between Vietnam and today's conflicts. The societal factors, motivations of Soldiers, and the professional NCOs and officers of today's all volunteer Army are vastly different. If knowledge of the operating environment proves to be critical to combat effectiveness on tomorrow's battlefiled, full unit rotation may not be the most effective model to build, maintain, and manage that knowledge.

**Fact: Reserve and National Guard forces will not be as "ready" for employment across the range of military operations (ROMO) at speed as the Active Forces.** There are many deeply held views about Reserve and National Guard forces in imagining future force designs and structures. The fact that the reserve forces will not be as ready (as defined by Army readiness metrics and deployment times) is a product of past and current practices. These practices date back to the Abrams Doctrine when Army Chief of Staff General Creighton Abrams believed that dependence on the reserve component would prevent future national leaders from committing forces to combat unless they were confident they enjoyed robust domestic support for the decision.[5]

#### *Force Employment*

**Fact: There has been a degradation in the effectiveness and efficiencies of Training and Readiness Oversight (TRO)/Training Readiness Authority (TRA) since the implementation of Modularity.** Many Army senior leaders and historians cite a general degradation in the Army's ability to provide training oversight of its subordinate units as a result of the sheer span of control and number of warfighting functions found inside the present maneuver brigade structure. If the Army must be postured with trained and ready forces for future contingencies, present organizational structures may not be conducive to this effort.

**Fact: Modularity presupposed ample contractor support for key technologies and functions (intelligence, surveillance, and reconnaissance; maintenance; logistics).[6]** This presupposition was a primary planning factor underpinning the move to modularity. The use of contractors is not adequately modeled or considered in many of the processes that determine future force designs and structures.

**Fact: Modularity presupposed air superiority and freedom of action in the air for ground combat operations in the joint fight, thus reducing air defense artillery (ADA) requirements and or the need to protect our own air assets form enemy air or ADA.[7]** Many of the Army's brigade and division designs are premised on the maintaining air supremacy. This may result in risk in future conflicts.

**Assumption: The BCT will not be vulnerable to indirect fires. Its detection and response capabilities are adequate.** The Army rarely simulates operating in environments where a brigade combat team would face continous indirect fire. Most Army units have little to no capability to acquire, identify, and respond to long range indirect fire systems.

Challenging the facts and assumptions outlined above is critical for the simple reason that the nature of warfare is evolving as is the burden on tactical echelons. Just a cursory analysis of the growth in complexity at the brigade echelon over the Army's history is telling. From Brigadier General Daniel Morgan at the Battle of Cowpens in the American Revolution, to Colonel Strong Vincent defending Little Round Top in the Civil War, to even Brigadier General Douglas MacAurthur commanding the 84th

Brigade of the 42nd “Rainbow” Division at St. Mihiel, France in World War I, command at this echelon was up close and personal. For the most part a commander’s left and right limits was within his field of vision. Subordinate echelons were limited in number and missions were fairly simple. If one applies today’s seven Warfighting Functions[8] to those periods, only a few were relevant at the brigade echelon.

Today’s battlefield is extremely complex. The sheer amount of information commanders have to absorb, process, and deal with during operations is staggering—and assumes that they can in fact cope with the volume. Information comes from higher, adjacent, subordinate units, and staff. The systems and staffs applied to assist the commander to process, filter, convey, or act on the information have also increased exponentially. The fewer than a dozen relatively stove-piped command and control systems of the Operation DESERT STORM era have grown to more than sixty command, control, communications, computers, intelligence, surveillance and reconnaissance systems today, and are forecasted to grow to more than eighty systems in the near future. At what point and by what methods do we decide when we have hit the “Cognitive Tipping Point” of the commander and his/her closest staff, regardless of the echelon? Indeed, the limiting factor on the future battlefield may well be the cognitive capacity of the commander and his immediate staff to understand the flows of information as they attempt to decide what to do.

“One must understand the mechanism and power of the individual soldier; then that of a company, a battalion, or brigade, and so on, before one can venture to group divisions and move an army.”

- Field Marshal Arthur Wellesley, 1<sup>st</sup> Duke of Wellington

Part of the solution to strengthening and improving Army design and structure practices is to include more science in the process to complement the art. A critical first step in this effort would be to put more emphasis and study on the cognitive capabilities of commanders and their immediate staffs. Despite a lack of scientific data in this area, the Army is making large decisions on what Soldiers, leaders, and staff can handle cognitively. The Duke of Wellington quote in the call-out box emphasizes the need to fully understand the individual before all else. The Army, in general, lacks a scientific understanding of the cognitive tasks, cognitive workload, and sources of cognitive overload on Soldiers, leaders, and staffs in the tasks the Army expects them to perform in Mission Command, as the overarching Warfighting Function. This knowledge gap has extensive negative implications for force design, Soldier-machine system design, capabilities development and assessment, and Soldier performance.

The Army also has three major gaps in its ability to analyze and model today’s complex operating environment: a lack of tools to model complex environments; the use of threat-based models in lieu of environment-based or other modeling solutions; and a lack of granularity as models federate from division down to the individual Soldier. All of these issues can be remedied with proper vision and investment. In the absence of a remedy the Army will continue to lack a holistic analytical capability—from tactical-to-operational-to-strategic—and may be failing to adequately provide senior decision makers with the needed data to support force design decisions. This forces Army senior leaders to rely on best military judgment to make some of their most critical force design decisions.

Furthermore, the Army’s current analytic process and tools are not sufficient to provide quantitative analysis of alternative force structures or packages that are being considered for an uncertain future or changing requirements. This failing is not the fault of the analytic community. In large part, it is an artifact of bureaucratic processes and the questions the Army has been asking the analytic community over the

last decade of war. Quite simply, the Army may have been asking the wrong questions and in the wrong manner. Ingrained processes were preventing the robust, albeit disparate, Army analytical community from answering difficult questions with the required analytic rigor because the principal question of “An Army of What, For What?” was not being adequately posed. Recent TRADOC efforts are starting to address these important questions.

In the aggregate, these failings do not allow the Army to speak candidly with itself on exactly what the Army currently “brings to the fight,” what it “must” bring to the fight, and what it “could” bring to the fight. The Army has a difficult time simply framing exactly what the fight is. Consequently, the Army is inadvertently removing options for the Army Staff, senior Army decision makers, the Joint Staff, and civilian leaders with respect to employing Army resources and capabilities to fulfill national objectives.

Finally, the Army must confront the “sacred cows” of force design and structure. Sacred cows are defined here as something held as sacrosanct or unquestionable by a culture, organization, or institution. There are many subjects that can be considered sacred depending on which organization within the Army you ask. Three sacred force design cows are listed below as an example, but there are many more.

**No environment overrides threat models** – All analytic tools, processes, and thinking concerning force design utilize threat-based modeling. If a complex environment is modeled into an analytic project or training event, the only data used is the interactions between friendly and enemy forces being modeled in the simulation.

**Size of battalion and below maneuver formations** – Despite multiple transformations, force redesigns, years of combat experience, and advances in technologies, Army maneuver forces at the battalion and below levels have changed little in size since World War II.

**Readiness business rules** – Most force design processes and tools are modeled within current Army readiness rules. The current model of a full brigade combat team attending a combat training center to be certified as “Ready” is viewed as unquestionable.

There are many reasons why organizations with strong cultures will not question their sacred cows. The most common reason is the lack of a compelling motive to question them or to offer them up for consideration. The inertia of the sacred cows seems to trump new innovation or different ideas. One of the main reasons preventing questioning something is that stakeholders have not been given a problem which they have not faced before or have not been given direct guidance to challenge or holistically analyze those items.

The present drawdown from war, budget limitations, and the changing nature of the threat makes this the perfect time to reset Army force design and structure processes in order to transform it for the future. There are numerous individuals and organizations that are doing tremendous work in these areas, but they are not resourced with the tools and authorities to provide the best solutions. The left and right limits of the previous efforts to transform may no longer apply. All facts and assumptions being carried forward into the Army’s current transformation should be extensively questioned and discussed. More science needs to be part of the force design equation. Finally, whether the discussion centers on the “McGregor Transformation Model,” active component – reserve component balance, or any other structure and design concepts, the Army needs relevant analytical tools to analyze them. Otherwise, force design efforts will be principally based on opinions—likely derived from past concepts, senior leader experiences, and limited simulations. With very focused efforts and investment, the gaps discussed earlier in this essay can be closed, and the results could be paramount to the Total Army’s future relevance and success.

**End Notes**

[1] McGregor Transformation Model refers to a proposal to restructure the Army presented to Congress by COL(R) Doug MacGregor. Highlighted in: Michelle Tan, “One Retired Colonel is Campaigning for More Cuts - and Congress is Listening, Army Times (28 July 2014, at <http://www.armytimes.com/article/20140728/NEWS/307280016/One-retired-colonel-campaigning-more-cuts-Congress-listening>, accessed 14 August 2014.

[2] Stuart E. Johnson, John E. Peters, Karin E. Kitchens, Aaron Martin, and Jordan R. Fischbach, *A Review of the Army’s Modular Force Structure*, (Arlington, VA: RAND Corporation, 2012), p. 52.

[3] John Sloan Brown, *Kevlar Legions: The Transformation of the U.S. Army, 1989- 2005* (Washington, DC: U.S. Army Center of Military History, 2011), p. 309.

[4] U.S. Department of the Army, *The US Army Capstone Concept*, Training and Doctrine Commander Pamphlet 525-3-0, (Washington, DC: U.S. Department of the Army, December 19, 2012), p. iii.

[5] Stuart E. Johnson, John E. Peters, Karin E. Kitchens, Aaron Martin, and Jordan R. Fischbach, *A Review of the Army’s Modular Force Structure*, (Arlington, VA: RAND Corporation 2012), 30.

[6] Brown, *Kevlar Legions*, 310.

[7] Brown, *Kevlar legions*, 310.

[8] A warfighting function is defined as “a group of tasks and systems (people, organizations, information, and processes) united by a common purpose that commanders use to accomplish missions.” (See page 13, *Army Doctrinal Publication 3-0, Unified Land Operations*, 10 October 2011). The Army Warfighting Functions are: mission command, movement and maneuver, intelligence, fires, sustainment, protection, and engagement (engagement has just recently been added to the list).

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