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**THE TOOTH TO TAIL RATIO: CONSIDERATIONS  
FOR FUTURE ARMY FORCE STRUCTURE**

**BY**

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## ABSTRACT

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The time has come for the Army to adjust its combat to support force ratio, commonly referred to as the tooth to tail ratio (T3R). For the foreseeable future, Army resources will continue to shrink while the scope and number of missions will grow. The Army reduced or reorganized support forces as the primary means to cut force structure. These actions resulted in an imbalance in its T3R. The primacy of combat arms is conceded but, in the equation and execution of combat power, support forces are also essential. Revising the T3R and maintaining a credible and effective war fighting force are not mutually exclusive processes. Many opportunities for change exist. Reasonable expectations of what an increasingly complex and uncertain future holds both calls for change and makes it the right course of action for future Army force structure.



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## Section I:

### Introduction.

There is much public debate concerning anticipated restructuring of the US Army to meet the future needs of our nation. Most of this discussion focuses on the economic or political factors that drive change or how much of the current force might survive the Quadrennial Defense Review(QDR) or the National Defense Panel(NDP). Little is heard on what shape future structures might take. One aspect in particular--the "mix" of capabilities that provides the Army's combat power--is seldom discussed in the public forum.

It's reasonable to expect that continued reductions and evolving post-Cold War strategies will cause revisions in the force design charted by the ongoing Force XXI and Army After Next



efforts. In an address to the US Army War College, a senior commander proposed that to resort to just a smaller version of the current force would undermine the credibility of the effort.<sup>1</sup> Creating meaningful, credible change, without sacrificing effectiveness, can be accomplished. To date, the primary means of affecting the drawdown has been to eliminate, reduce or shelve support forces in favor of combat arms units. This tact produced an imbalance in the T3R. The future will require change that recognizes and exploits the value of support forces to fully accomplish the needs of the evolving National strategies.

The Army must respond to these challenges as an opportunity to achieve better proportion, address the full range of required capabilities, and maximize combat power. A change in attitude toward the Army's combat to support force ratio, commonly referred to as the tooth-to-tail ratio(T3R), would be an important fundamental step helping leadership and force designers take advantage of this opportunity.

## Section II:

The Tooth-to-Tail Ratio(T3R) and the Prevailing Bias.

Tooth-to-tail ratio(T3R) is a slang phrase used to describe the comparative relation between the number of combat arms forces and the number of supporting forces in a military organization.

T3R is an important ratio, the balance of which increases or detracts from combat power. T3R is important because it is accepted as a meaningful statistic for the justification and application of resources. Of course, the Army operates in a resource constrained state.

The size, structure and application of the Army is constrained four ways. The first constraint is the Nation's expectations. The Army's fundamental missions express these expectations: Preserve peace; Deter aggression; Fight and win.<sup>2</sup> The second and third constraints are fiscal and political realities. These two constraints may or may not be directly related to the people's expectations. The fourth and most fluid of the constraints is National Will. The National Will as it applies to the Army has three fundamental characteristics. It is

fundamentally isolationist, wary of the military (and the military industrial complex), and is shaped by a commonly held belief that charity should begin at home. Naturally, these constraints quickly become the frame for force design and the distribution of resources. The prevailing bias, or "mind set", held by Army leadership as an equally powerful influence on the T3R.

Management practices implemented by Secretary of Defense McNamara in the 1960's have kept generations of Army leadership under tremendous pressure to justify even the most fundamental resource requirement and to defend the distribution of resources within organizations.<sup>3</sup> The recent drawdown and resulting resource reductions magnified the problem. Consequently, an overarching criteria emerged to guide force planners and managers faced with tough decisions: Preserve combat power. This is an excellent criteria. Soon, however, the logical decision became generalized as a statement of the comparative worth of forces, and an "ordained" solution. When faced with a resource restriction, any imposed reduction, or a perceived need to add personnel within an organization--and a combat arms organization, especially-- this expeditious solution could be applied.

The solution for preserving combat forces became that of using support forces as the bill-payer.<sup>4</sup> Notice the transformation of the criteria into a bias which resulted in a narrower course.

The bias presumes the terms combat arms and combat power are synonymous. However, combat power is derived from many other sources than just combat arms. The five fundamental elements of combat power are: Firepower; Maneuver; Knowledge, Resources and Will.<sup>5</sup> In all the Army does, victory is the end, combat power is the way, and a fully capable force is the means. The objective of force planners is to design, create and field armed forces with a T3R that provides the appropriate amount of combat power to successfully execute missions in accordance with doctrine and in support of National and military strategies.

The process used to develop force structure, and therefore by default define the T3R, is the Total Army Analysis (TAA). The TAA assesses the number of combat units required to meet anticipated needs derived from the latest version of NSS. Support requirements are then tacked on to these baseline forces using rules of allocation. Both combat units and support units used in this design methodology are based on World War II models. These total requirements are then placed against the end strength

the Army is allowed to have. When requirements exceed permitted end strength, support forces are removed, or "scrubbed", from the force structure. The need to eliminate any element is defined as risk.<sup>6</sup> The deliberations on what to eliminate (how much risk to accept) are conducted in earnest and it is difficult to imagine any decision being made lightly.<sup>7</sup> While this methodology is effective in reducing military force structure, the requirements remain, creating an imbalance between combat and support forces. Department of Defense (DOD) civilian, contractor, or host nation personnel or organizations are often cited as the means to resolve the shortfall between requirements and resources.<sup>8</sup> Fundamentally an excellent process, the TAA, (described here in very general terms), maintains the bias concerning the value and application of support forces.

The "Total Army" refers to the Active and Reserve Components together. The TAA does not count DA Civilians or private sector support.<sup>9</sup> Therefore, the TAA is misleading because it is not an analysis of all "forces" used by the "total" army. Thus, the shift in requirements to non-military assets maintains the status quo by tacitly giving them the same weight in the combat power equation.

The Army's current T3R is a dangerous 3:1.<sup>10</sup> Even if it were higher, the genesis and significance of that ratio are frequently lost or misused. In popular use, T3R is seldom announced as a specific quantity or proportion such as 3:1 or 2:7. Even less frequently is the ratio accompanied by a description of the ratio's value relative to the mission to be performed. Most often, T3R is described in emotive terms, such as "too low." In a recent address to the students of the Army War College, a senior leader demonstrated this bias. He did this by expressing his concern that during World War II there were 38 "shooters" per square kilometer of combat zone while today there are only three in the same area.<sup>11</sup> In these examples, the message is clear: there is too much "tail" (support force) in relation to "teeth" (combat forces).

In the next round of force redesign, additional factors should be considered and the bias put aside. While the Army has been compelled to downsize, the NSS, NMS, and Army doctrine have changed.



### Section III:

#### Strategy, Doctrine, and the T3R.

In the past seven years, for a wide variety of reasons, changes occurred in the National Security Strategy (NSS), the National Military Strategy (NMS) and the Army doctrine for the conduct of operations, (described in field manual FM 100-5 and others). A large reduction in troop strength and fiscal and material resources accompanied these changes. Some of the changes were a reaction to current events, most a response to a rapidly reorganizing world and political interests.

These changes reflect a new and increasingly ambiguous world. It is a situation of both not knowing who might be friend or foe, and growing pressure to constrain expenditures. Covering all bets, the NSS and NMS became flexible strategies of selective engagement and the enlargement of democracy.<sup>12</sup>

Starting with FM 100-5, Operations, then later with other doctrine manuals, the Army began to address the types of operations and capabilities required for the more non-traditional missions they must now perform as the mules of US policy. These



requirements include: promoting cooperative security; working as an agent of the US economy by operating in foreign markets thus encouraging regional economic growth to the benefit of the host and the US, and promoting democracy.<sup>13</sup> Previously, these tasks were conducted as an unstated, adjunct way to make the mission easier or more successful. Currently, they appear the primary reason for many Army operations. This, the decrease in strength, and the new emphasis on non-traditional missions mandated that doctrine change. Three major changes resulted. The acceptance of military operations other than war (MOOTW) came first. Then the concepts to support and sustain major operations directly from CONUS appeared. Finally, and perhaps most significantly, came the declaration that *Versatility* is a tenet of Army operations.<sup>14</sup>

The NSS, NMS, and FM 100-5 are predicated on an anticipated future. That anticipated future is only a broad, reasonable, and conservative likelihood not a precise statement of fact. As with most prognostications, it's generally accepted that the past charted on a trend analysis line is an indication of what will happen next (although there is no statistical evidence to prove this is true). Therefore, based on strategy, doctrine, and utilization, the anticipated future is characterized by: high

operational tempo (OPTEMPO), a wide spectrum of simultaneous missions, and incongruent force and resource reductions.

Regardless of the degree to which this anticipated future comes to pass, the condition that remains relevant to the employment of forces in support of the NSS and NMS is engagement. The combat power required for the Army to remain engaged and best accomplish the wide variety of assigned missions provides the most practical reason for a reassessment of the Army's T3R. Following are some considerations outside the prevailing bias.

What zone in the spectrum of missions is the most critical for the Army? Many would say it's where the most likely operations are. However, the most likely missions probably have the lowest risk. The Army must focus its training on skills needed to sustain, survive and win in mid-to-high intensity warfare. That focus is equally as important to support forces as it is to combat arms. Support forces probably receive the most training from the conduct of MOOTW missions. An increase in support forces would capitalize on the situation--they would be more suited to the most common type of mission and receive realistic training while effectively maintaining the combat readiness of both types of forces. In contrast, the reduction in support forces results in many combat arms soldiers being used to

backfill personnel shortfalls and doing support tasks. This situation further reduces the combat readiness of the total force. An increase in the quantity and readiness of support would benefit all.

The use of support forces may be more conducive to accomplishing the bulk of NSS and NMS missions. When the mission is engagement--diplomatic, or economic, or encouraging democracy--which will be more effective in the long run? By the nature of their operations and equipment, support forces would appear to the supported country more directly involved in the strategy. Support soldiers are clearly providing support, engaging in commerce, helping nations build, and acting as role models for democracy as informal ambassadors in a sovereign state. In contrast, combat forces, who are there to defend the citizens, appear to be occupation forces.

For the foreseeable future, the Army won't have enough of both or of either type forces. Politics, public sentiment, or cost will prevent it. Therefore, the T3R should support the most complete capability to train and maintain readiness as well as to execute. Readiness must be measured by combat effectiveness. To be combat effective, a force must be able to move, shoot and communicate. You can't shoot if you can't move and communicate

(and a lot more). As the drawdown took on the traits of a wildfire, both combat arms and support forces fell victim. However, support forces were reduced in greater proportions, leaving an Army that many feel is on the cusp of being hollow once again.<sup>15</sup> If the spearhead has a keen killing edge but no mass, and the shaft of spear is short and light, it loses most of its combat effectiveness. It would be better to have a smaller, more balanced and deadly sword which when applied with power and skill can decapitate.

There are manifold reasons to change the prevailing bias concerning the T3R. The prevailing bias was useful--even understandable--in the context it was created. Recent changes in the world situation and the ongoing evolution of strategy and doctrine continue to parallel increases in Army missions. Even the nature of those missions appear to be changing as they increasingly take on the color of the strategy and policy of "engagement." These factors make the commonly applied approach to the combat to support force ratio outdated. To fight and win remains the ultimate requirement of the Army. Force designers should ensure the drawn-down army of the future has a T3R that maximizes combat power.

Admittedly, National strategy seems to change every four years, and doctrine every five to ten. That possibility is often translated into a defense of the status quo. The result is a conflict between the often declared maxims--"If it ain't broke, don't fix it." and "Don't do something just because that's the way we've always done it!"

#### Section IV:

##### The Bias Could Be Maintained With Risk.

Public debate on the future of the Army is replete with persuasive arguments for maintaining the status quo. The result of doing so would be an Army of essentially the same structure, only smaller. The maxim "If it ain't broke, don't fix it" describes the best of these arguments, which draws strength from the proud history of success enjoyed by the current Army force structure. Changing successful organizations involves risk, but no more risk than failing to make appropriate change. Therefore, any effort to forestall change because of risk should give like consideration to the risk incurred by failing to change.

Following are four primary arguments used to justify the continued use of support forces as bill-payers. Each has inherent risks.

One way the status quo is maintained is by using the Army in an increasingly broad spectrum of roles and accepting tasks similar in each role as training for combat. The Army is often the first choice as the actor to play out the National Security

Strategy. It is organized, competent, and possesses a wide range of capabilities. Using the Army is expedient and effective, and doesn't draw attention to other segments of the Federal budget. In the past decade, support for deployed soldiers has been interpreted by some as support of the policy. Using the Army across all elements of national policy incurs risks.

Spreading the Army across increasing and disparate roles, without commensurate changes in force structure risks creating a jack of all trades, master of none Army, diluting its readiness to fight and win wars. Trying to make the best of the situation, Army leaders underwrite many of the similar tasks as training. While these tasks are similar, especially for support forces, there is a fundamental and significant difference between acting as an advocate of the Nation's policy, and fighting war. A competent Army with a wide range of capabilities is valuable and useful, but not the essential reason for having a ready, standing Army.

Routinely using combat forces as a primary agent across the full spectrum of the National strategy produces a less obvious but more dangerous risk. It causes the world to see the Army as the Nation. This view is in sharp contrast to the self-image of an Army of citizen-soldiers from a nation whose premise is

(correctly) that the military is subservient to civilian control. That nation is one where the civilian is usually the best instrument of policy and the most effective example of the American way of life. The grand application of warriors as peacemakers contradicts this self-image. When the military is the most visible element of the Nation's foreign policy, they take on the appearance of a Legion, whose duty it is to maintain the empire. Over time, this contradiction is likely to produce resentment from those being helped. The Nation is a democracy lubricated by business. The Army is neither a democracy, nor a business. In a long, complex engagement the NSS would be better served by the civilian sector. This approach would gain the respect of those to be influenced as they witness and experience the widespread commitment of a caring civilian sector and a competent political system.

The Army, however, serves the Nation without choosing the roles and missions they are to perform. Nor does the Army choose the size force they have to perform these duties. Increasingly sent to conduct operations short of war, Army support forces are best suited to conduct most of the business of enlargement and engagement. While so employed, they will help preserve the readiness of combat forces in a shrinking Army.



The latest version of the resourcing, organizing, and transferring functions and capability required to support combat power to non-army entities is called "privatization." Several features of this effort are appealing. One important feature is the fulfilling of otherwise unresourced Army requirements. This approach also promotes the concept that most of the objectives of the NSS are best accomplished by the civilian sector.

In theory, privatization puts jobs in the civil sector and stimulates the economy--or at least distributes money across a broader segment of the population. The belief that privatization will reduce the Army's budget is another justification.<sup>16</sup> Savings are anticipated two ways. The theory is that support from private business will cost less in the immediate and long term and the number of soldiers due entitlements will be reduced, promising long-term savings.<sup>17</sup>

The jury is still out on whether or not, in the grand scheme of things, support from private business will cost less. Stories of cost over-runs and price gouging inflicted on the military by private industry have reached near-mythological status. The government paid significant "military benefits" to private citizens under contract to private corporations providing support for the war in Vietnam.<sup>18</sup> If such payments became widespread, as

they likely would following a major engagement, any savings of military veterans entitlements would be neutralized.

While appropriate in a limited setting and appealing in the immediate context, there are inherent risks in privatization. The risks associated with limiting the commander's authority and available resources is more pronounced in privatization. In this approach the Army is not merely receiving supplemental support from business. Privatization replaces force structure and capability. It also emphasizes the flip side of the image presented in the support of the NSS. With privatization, the application of armed force in support of national objectives is tinged with the color of enterprise.

The Nation does not see itself as a merchant of war. America's Army is about service while American business is about profit. Moreover, in diplomacy, appearances count and position is power. Privatization of combat power begs the question: Must the most successful nation, a nation that prides itself as a sole superpower, resort to using profiteers to defend itself, its interests, and its allies?

The economy and budget are real concerns. Though they may be valid reasons to resort to privatization, its use should be constrained by the risks. Advocates of widespread privatization

point out that if the Army were to "really" need these support units, they could be created during mobilization, so potential long-term cost savings become the issue. Realistically, the issue is not dollars, but readiness. If your home is in flames, it's too late to organize a fire brigade.

Technology is often used to justify using support forces as bill payers to maintain an army designed on the World War II model. Technology must be embraced and exploited by the Army. But as a justification of the bias towards T3R, technology is vastly overrated. Gunpowder, the machine gun, the tank, the airplane: The history of technology in warfare teaches us that the introduction of new capabilities does not reduce the need for support structure. Just the opposite, support becomes more complex and combat power more dependent upon the technology on which its organizations and doctrine are designed.

If quantitative data is available to support this claim, it's well hidden. Judgment based on anecdotal evidence is plentiful. A classic example? For example, almost every officer and many sergeants have computers on their work desk. Has the proliferation of computers reduced the workload, simplified the processes of command, control and administration or saved resources? Automation replaced clerks on staffs, in motor pools

and in tactical command posts. But it did not reduce the work to be done. The "admin stuff" is now being done by the leaders. Done and redone in many cases. Were manpower requirements significantly reduced? There are fewer clerks and no more typewriter repair companies. But automation requires support- and seemingly every unit has an automation office to keep the mission moving. The technology "replaced" manpower but new and different, (and sometimes more), manpower is required to operate and maintain that new technology. Where does THAT manpower come from? It comes from the ranks. See the conundrum? Replace ten people with technology. This is commonly referred to as a "savings." Give the function to five other people as additional work. Make a new support group of six people "out of hide" to support the technology. It's not a one-for-one manpower savings. It's not less work, just different work. Frequently it's work done by the wrong people.

Integrating technology into the Army's processes is vital and should remain a high priority. On the other hand, technology should not be used to eliminate support it can't replicate.

The downsizing of the Army gained momentum after the end of the Cold War. As it did so, much of the support force was shifted to the Reserve Component (RC) and CONUS bases which became

platforms for long-distance support of the Active Component, and combat forces in particular.<sup>19</sup> This status quo approach, which is likely to continue through the QDR, may have changed the overall T3R little--but the distribution and means of support changed radically. This shift in support contains three risks--a dependence on CONUS-based infrastructure which may not be up to the task, a reliance on transportation assets which may not be available, and the presumption that RC forces can be routinely employed as surrogates for the Active Component (AC). The most significant of these risks is the redesign of the AC/RC balance using the T3R as the fulcrum.

Reserve Component soldiers are not second class. Dedicated and competent, they are great Americans. Skill transfer between civilian and military occupations means they are sometimes better trained in the narrow specialties. But by design they are second-tier and thus generally less ready and less available. Additionally, the RC has not been spared force reductions. The effects of the shift are beginning to show as some say the Reserve Component is over-tasked.<sup>20</sup>

The NSS places soldiers on long deployments conducting operations something short of war. By their nature, these operations require extensive support forces. As a result,

Reserve Component units, the primary source of much support, often meet themselves coming and going.<sup>21</sup>

This near full-time deployment of Reserve Component units has a second order effect on combat power—especially in the element of Will. In its most benign form, this approach contradicts the traditional role of the Minuteman. To the cynical, it suggests that policy-makers are using "smoke and mirrors" to mislead the public as to the extent of the commitment and risk the Nation has assumed and how many armed forces are truly needed to execute the Nation's policy objectives.

The use of Reserves is supposed to produce budget savings by delaying retirement pay and spending less to operate infrastructure required for Active Component forces (full-time allowances, billeting, and the like). But, evidence is beginning to build that these savings are being negated by several factors. One is that the RC soldiers are on active duty so frequently and repetitively, that pay and allowances plus the multiple processing costs offset savings. Also considered is the cost to the Nation's economy as employers constantly adjust to the instability of the work force.

Another trend developing is that employers are beginning to balk. Some disagree with the policy the RC soldier is deploying

to implement. By not cooperating with the deployment at the individual soldier level, they invoke political pressure on the policy at the expense of the soldier and the Army. The employer, too, incurs expense with these deployments, even if a supporter of the policy or an individual soldier. The investment an employer makes in its employees is expended with no return to the business, whose production is reduced, or maintained by duplicate and perhaps less qualified, workers.<sup>22</sup> This situation is a second order effect on the economy, but could easily create a first order impact on the use and availability of the Reserve Component.

As with the other devices available to maintain the status quo, over-reliance on the Reserve Component contains inherent risk. Revision of the Active Component T3R could reduce or resolve the first and second order risks to the Reserve Component and the execution of National policy.

Discussing the ways to minimize change and the inherent risk of doing so does not imply the current force design methodology, TAA, should be abandoned. Each risk associated with maintaining a structure that offers only more of the same on a smaller scale compounds the threat of a "no confidence vote" by Congress and the Nation and of building a sub-optimized force. Weighed

together, these risks threaten the Army's combat power and diminish its capability to conduct the full range of operations required by the NSS and NMS. Conversely, changes to the T3R could increase the suitability of a new force structure for the new roles, missions and strategies it is asked to accomplish. A change in attitude would only be a foundation for the effort. There are other ways to change the T3R which could improve future Army force structure.





## Section V:

### Conclusions and Recommendations.

National and military strategies, and Army doctrine have changed significantly. Course corrections are certain, but it is highly unlikely the future will reverse course. All the while the NSS, NMS, and doctrine were changing, the Army was compelled to reduce force structure. The predominant means of reducing the Army was to eliminate, reduce or second-tier support forces. This tact, in combination with the changes in strategy and doctrine create an imbalance in the T3R. The imbalance in the T3R and changes to the NSS, the NMS, and Army doctrine--and the employment expectations they create--threaten the effectiveness of the Army. This threat does not justify a bloated or bureaucratic Army. Such an Army is undesirable, unacceptable, and unaffordable. There are, however, some approaches which, unencumbered by the current bias concerning the T3R, that could produce effective change--a streamlined Army without degraded combat power.

The most important change needed is the inculcation of the value of support forces in the contribution they make to the successful organization and execution of combat power. To do this, the bias must be overcome. The Army must continue to assign primacy to combat arms, but strengthen the common interrelationship of Combat, Combat Support and Combat Service Support through the process of force design and management. Additional weight should be applied to support forces as a combat multiplier when calculating support force requirements. Combat support forces are the perfect blend of warrior and provider. This unique blend cannot be compared or replaced by other sources of support. This advantage of having AC support forces must be reinforced with the Nation's political and business leaders as well. It must be Especially reinforced with those leaders likely to call for the employment of armed forces as a remedy for flagging policy or economic prowess. Addressed frankly, through existing appropriate forums, the American public will be an ally on this issue.

Continue what is good in the current wave of revisionism. Change, freedom of action, mutual support, and expectation are characteristic of our citizenry. Being partner to change will

increase the flexibility the Army has to implement revisions that enhance the Army's T3R and avoiding those that do not.

The search for and implementation of economies and efficiencies must remain part of all the Army does. Routine demonstration of these initiatives will keep spendthrifts focused on the value and benefits they receive from defense expenditures. In turn, it will garner the support required for research and recapitalization needed to prevent the Army from becoming threadbare.

The Army must continue to participate in the evolution of industry standards for technology, manufacturing, and data management. This effort is critical to the continued success of Commercial Off The Shelf (COTS) acquisition and utilization. It holds the greatest potential for minimizing interoperability problems, reducing costs and achieving significant efficiencies in operations and staffing. COTS is one of the more successful methods of providing combat support without commensurate increases in overhead.

The Army should take advantage of the increased precision and lethality of weapons, especially in resourcing for mid and high intensity conflict. Use the catharsis thrust upon us by the drawdown and force restructuring as an opportunity. Confront and

resource the shortfalls in mobility, telecommunications, logistics and infrastructure that is presumed in our fundamental doctrine.

The Army could better exploit the potential of "Jointness." Overall, increased emphasis on coordination and cooperation between Services is successful. Successes include reduced parochialism in the face of constrained resources, improved operational doctrine and procedure, and the most important result--increased capability to maximize combat power in support of National interests. In the long term, judicious application of common, joint support, in combination with administrative and technical changes, is likely to produce real economies of force and further improve Army capabilities.

A long list of functions seem to beg for trans-service support forces. The Army should endorse joint units to provide: medical, judge advocate, information warfare, postal, military police and criminal investigation, space operations, personnel administration, logistics, finance, intelligence, public affairs, and telecommunications operations. These functions could be performed by trans-service personnel in all but the most unique cases. Significant cultural changes would be required, but the Army has demonstrated that cultural change is achievable.

Joint force structure could overcome under-resourced and ineffectual tradition. "Jointness" could be expanded beyond the Armed Forces. The Army might benefit by endorsing the expansion of trans-service support Defense Department-wide or even throughout several of the interagencies in the Federal government.

Since this discussion is about the tooth as well as the tail, the same concept should be examined for the combat arms. Two examples come easily to mind. The Army could significantly reduce the number of main battle tanks and proliferate small, fast-attack helicopters and hunter-killer missile teams--then provide the capability across the Services.

Enhancements to combat power are possible at many of the core competency levels of training, administration, and operations within the combat or support forces of all Components. The Army would be well served by a study of how and where elements of Services might be brought into the Army.

Complement the total force with a program of National Service in critical skills. The need for an all volunteer Army may be past- or worse, no longer appropriate. The program should include a training partnership with Industry, reduced benefits for conscripts during peacetime, increased benefits for combat

arms specialties or duty with combat arms units, regardless of specialty.

The Army should not reduce support forces in the next series of drawdowns. If an imbalance remains, they should replace portions of the support forces used as bill payers in previous cuts, bringing the total force into more effective proportions. While doing this, the Army should reclassify the best soldiers from the combat arms into the support force as much as practicable.

Previous sections of this paper recognized a bias applied while building the current force and discussed the risks in maintaining the status quo. This section recommended ways to modify the T3R and maintain or improve combat power. Each has included an underlying reason for change.

This is not the first time the Army has faced significant force reductions. In the past, military capability was reduced on the premise that the future would hold peace, and there was neither significant need nor a significant role for the Army. In contrast, today's force reductions do not presume a peace and the role of the Army has increased. The entrenched approach to force redesign is to have fewer, less populated versions of the same structures and assign them to conflicting simultaneous missions

in multiple regions of the world. The Army's future force must be not just smaller, but different. One of the key ways to generate a different force with equal or greater combat power will be to field the future Army with a realistic and effective combat to support force ratio. Again, the combat arms must retain primacy. However, new challenges and new conditions oblige us to revise how the value of support forces in the T3R are weighted and applied in the redesigned Army organizations fielded to provide US ground combat power in the future. The post-Cold War global situation, domestic issues, and evolving National Security Strategy all indicate the Army faces a future in which its resources will continue to diminish while the scope and number of missions continue to increase. These conditions require the Army's combat to support force ratio, commonly referred to as the tooth to tail ratio (T3R), be adjusted to provide a force structure best suited to implement the National Security Strategy. The point of departure to effectively change the T3R is to define the concept and identify the biases concerning T3R in the force building processes. As with any successful organization, the tendency will be to maintain the status quo, in spite of recognized shifts in the environment in which that organization must operate. Change involves risk. So



does stases-- therefore before choosing that path, its inherent risks should be considered. The primacy of combat arms is conceded. But in the equation and execution of combat power, support forces are also essential. Revising the T3R and maintaining a credible and effective war fighting force are not mutually exclusive processes. Many opportunities for change exist. Reasonable expectations of what an increasingly complex and uncertain future holds both calls for change and makes it the right course of action for future Army force structure.

## ENDNOTES

<sup>1</sup> Guest Speaker, (first cited), US Army War College (USAWC), Commandant's Lecture Series (CLS), Academic Year 1997. The USAWC CLS applies and enforces a non-attribution policy.

<sup>2</sup> Office of the Joint Chiefs of Staff, National Military Strategy of the United States of America: A Strategy of Flexible and Selective Engagement (Washington: U.S. Government Printing Office, 1995), ii.

<sup>3</sup> Robert S. McNamara, In retrospect: the tragedy and lessons of Vietnam (New York: Random House, 1995), 22-24.

<sup>4</sup> Mr. John Scott, Assistant G6, 7th Army Signal Command, telephone interview by the author, 21 February 1997.

<sup>5</sup> The following concept of combat power and the definitions for each element are my own. The five fundamental elements of combat power are: Firepower; Maneuver; Knowledge, Resources, and Will. Within this concept, the elements are further defined as follows:

Firepower is the ways and means of inflicting destruction or havoc to eliminate or render ineffective an opponent.

Maneuver is the ability deliver or withhold firepower.

Knowledge is information recognized as having value within the context of the situation and which if acted upon or denied could influence the outcome of an event.

Information not recognized or known, or not acted upon either actively or passively, is merely data.

Resources are the people, material, data or technology which can be applied to influence an event.

Will is that component of power that is derived from the inclination of a person, or the collective inclination of people, to act or have others act on their behalf.

Will is demonstrated through observation of a decision to act or withhold action in response to a dilemma, regardless of capacity and irrespective of the nature of the decision: active or passive.

<sup>6</sup> Ms. Ellen Trotter, Action Officer, U.S. Army Office of the Deputy Chief of Staff for Force Development, telephone interview by the author, 19 February 1997.

<sup>7</sup> Ibid.

<sup>8</sup> Scott.

<sup>9</sup> Ibid.

<sup>10</sup> Department of the Army, "Active Army End Strength," Information Paper, Washington, 5 December 1996.

<sup>11</sup> Guest Speaker, (second cited), US Army War College (USAWC), Commandant's Lecture Series (CLS), Academic Year 1997. The USAWC CLS applies and enforces a non-attribution policy. This was a different speaker than cited in endnote 1, above.

<sup>12</sup> The White House, A National Security Strategy Of Engagement And Enlargement (Washington: U.S. Government Printing Office, 1996), 11.

<sup>13</sup> Office of the Joint Chiefs of Staff, National Military Strategy of the United States of America: A Strategy of Flexible and Selective Engagement, i-iii.

<sup>14</sup> Department of the Army, Operations, Field Manual 100-5 (Washington: U.S. Department of the Army, 14 June 1993) 2-17.

<sup>15</sup> Scott.

<sup>16</sup> Zalmay Khalilzad and David Ochmanek, "An Affordable Two-War Strategy," Hand-out reference with publication and date unidentified, USAWC, Carlisle Barracks, PA, AY 1997.

<sup>17</sup> Department of the Army, "Chief of Staff Efficiency Strategy," Information Briefing presented to Seminar 11, Carlisle Barracks, PA, 2 December 1996.

<sup>18</sup> Larry Colby, Chief Warrant Officer 4, U.S. Army (Retired), telephone interview by author, 11 February 1997.

<sup>19</sup> John Graham, The Doctor is Out, Paper presented as part of course, "Writing for Publication" at the U.S. Army War College, Carlisle Barracks, PA, AY 1997, Original manuscript retained by author.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

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