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Linked technology & information: Shared soul of the U.S. military's potential transformational change and RMA, but are the conditions right?

The current Secretary of Defense strongly desires a transformation of the U.S. Armed Forces. While Secretary Rumsfeld's definition of transformation may be somewhat vague and possibly limited in scope, the questions before the court are not only whether the U.S. military will successfully transform itself, but should it want to do so? When analyzing the current U.S. military environment, and comparing it to conditions where successful military transformations have occurred in the past, I would argue that although the U.S. military's "informatizing" has the capacity to prompt transformation change (and a true revolution in military affairs (RMA)), it will not cross that threshold in the next 10-15 years, if at all. Given the U.S.'s current dominance of the conventional battlespace, I would argue that the Department of Defense (DoD) should pursue incremental change, and not transformational, because the greater the gap in our military's conventional superiority, the more incentive provided to military adversaries to employ truly asymmetric strategies against us. The non-military adversaries we are encountering in the Global War on Terrorism (GWOT), such as terrorists and insurgents, already have every incentive not to fight the U.S. on its own terms; it is our existing conventional superiority that has driven others to turn terrorism into a form of war, which in turn makes our existing military paradigm less applicable than ever. Given that approximately 90% of DoD spending is allocated to systems that have little added value in fighting terror nets and guerrillas, the preponderance of any transformational changes would positively affect conventional forces more so than SOF—which are arguably better suited to conduct operations outside of the conventional spectrum of conflict such as the counterproliferation (CP) of weapons of mass destruction (WMD) and low-intensity conflict (LIC) environments. And, these are the operations most likely in the GWOT's future.

That being said, there are several pre-conditions necessary to successfully promote the transformational change of our military. These conditions, taken in a historical context, seem to

answer the question "why" or under what circumstances successful transformation has occurred in the past. Looking at both internal and external factors of former successful transformations, I would argue that the U.S. military does not currently look like the militaries that made a transformational leap. While several of the following conditions might currently apply to the U.S., I argue that these conditions are only slowly advancing the military towards the threshold that it must cross in order to achieve a transformation changes and full modernization, while several conditions not met will only make possible incremental changes and thin modernization of our military.

The German military of the post-WWI era found themselves in the world of the "large and the few" trying to operate as the "small and the many." This mentality was the result of the first condition necessary for transformational change—an increase in the lethality and precision of firepower that had made the traditional battlefield uninhabitable. Due to its almost total domination in the conventional arena, the U.S. military's leadership views the current battlefield, as extremely hospitable. While one could argue that guerrilla tactics are definitely taking their toll on morale and public will in the ongoing GWOT operations in Afghanistan and Iraq, the relatively small number of U.S. casualties has not resulted in a feeling that the U.S. has lost control and dominance of the battlefield. More devastating tactics by terrorists, such as WMD attacks, would be necessary to convince senior military leaders that transformation might be necessary in order to minimize the U.S.'s vulnerability to such "new" threats, while also providing a more capable force to counter such threats in the future. This misunderstanding of the true nature of the threat, inadvertently created by the U.S. through its conventional dominance, has not been realized (or accepted) to date. Until such guerrillas or terrorists release the next level of devastation, the U.S. military will continue to believe that it has a monopoly on firepower, and to feel "at home" and comfortable on the battlefield where we dominate.

Largely due to the U.S.'s failure to understand the true nature of the threat it will likely encounter in the future, the U.S. military is not ready for a change in its current warfighting paradigm. This highlights the second condition necessary for transformational change—the military or political necessity for a transformation. This lack of necessity may, in large part, be due to the fact that technology can often undermine imagination insofar as applications and uses of that new technology. The German military of post-WWI fostered innovative ideas, especially from below. The German military did not punish those who thought "outside of the box" and against status-quo activities, so the environment was ripe for such transformational leaps. The necessity for such transformation opened the eyes of the senior leaders, who were looking for a new warfighting paradigm that would raise their country to the status they believe it deserved.

In contrast, U.S. institutional leadership has a long track record of innate conservatism and maintaining the status quo. Just as the entire DoD fought the creation of USSOCOM in 1986, the "powers that be" continue to resist any changes to the status quo; consequently, there is little incentive to support such changes. Even seventeen years after USSOCOM's creation, there is still dissention among U.S. senior military leadership with regard to SOF. This is best explained by the "institutionalist" view, which assumes that organizations are more concerned with the internal distribution of status and power than with organizational goals. In this case, future relevance within the US military is determined by the preservation of current budgets, and the acquisition (expansion) of one's budget at the expense of another's. Essentially, the reward structure of the U.S. military's leadership is based on such competition, and will not change until made to do so from an outside (i.e. civilian) force.

A philosophy of institutional leadership that fosters true decentralization and de-control is a third key condition needed for transformational change. Understandably, given the "zero-defect" mentality of conventional U.S. military leadership as a result of our military's failures

during Vietnam, putting one's fate in a subordinate's hands is a difficult leap of faith. However, while our military leadership talks about decentralized execution, they don't seem to comprehend that true combat power comes from "command and de-control" (i.e. network-based warfare). The U.S. military only performs these "friction-free" operations out of necessity when no other options are available or feasible. For example, in Afghanistan, SOF were allowed to employ their skills to remove the *Taliban* regime only until the point where conventional forces could take over operations, even though situations more suited for SOF or clearly requiring unconventional forces remained.

Unfortunately, technology advances have resulted in more centralization than decentralization; now, the lower echelons must "feed the machine" information needed for decisions that could better be made at lower echelons. This increased centralization supports the notions that change does not necessarily result in innovation, and that reliance on technology can definitely undermine imagination and foresight into technology's true implications and capabilities to make warfighting more efficient. The Germans, if no one else, realized this when they invested in the human capital of their military's officers to best facilitate decentralization as an organizational and doctrinal change to support their warfighting transformation. Ironically, the U.S. continues to miss the boat in regards to the application of information dominance to empower smaller units to operate in a distributed manner.

Arguably the most important condition necessary for the Germans' post-WWI transformation was their WWI defeat/humbling that opened their eyes to the possibility of transformation. As the fourth condition, recognizing failure is essential to taking the next step, and I would argue that a failure in either Iraq or Afghanistan (as this generation's Vietnam) might be necessary before the military will realize the possible transformation staring it in the face. This compliments the fifth condition necessary for transformation—the failure of the

current paradigm of warfare. The Germans experienced both of these conditions during WWI that enabled them to recognize where they went "wrong" and to transform themselves into something that supported their new paradigm of combined-arms warfare. It could be argued then, that the DoD has only recently realized a "failure" of their current paradigm by acknowledging that they are engaged in a counterinsurgency (COIN) or guerrilla warfare campaign in Iraq. When taken in context of the terrorist attacks of 11 September 2001, what other evidence will be required to provide proof of the new kind of warfare being waged by our GWOT adversaries? But, there have been no doctrinal or organizational changes made to date to address a new strategy to defeat such a threat. I believe our military views this anomaly as an "exception to the rule," suggesting that the old paradigm is still correct, but that there are just "special circumstances" in Iraq. This is merely another method of defending or "saving" the old paradigm of warfare, even in the face of evidence that would seem to refute its validity. Thus, the concept of the "paradigm as a hindrance to understanding" is currently preventing critical thinking about the unconventional or militarily irregular problem at hand in Iraq.

A final condition necessary for transformational change is a full understanding of new technology and its capabilities. As often has been the case throughout history, technology designed for a specific purpose has often not been used to its maximum, optimal, or full potential as it could have more holistically affected warfighting. The Germans dealt with this problem through use of a "central acquisition organization" that integrated technology across the services. It effectively shared the ideas/innovations of technology uses so that there was more than one brain implementing technology unilaterally. By comparison, the U.S. military does acquisition in a "service vacuum" which greatly limits the advances and potential gains in technology from one service to another within the DoD. Better cross-pollination of technological uses, concepts, and ideas might allow for a broader analysis of the capabilities of any given technology acquired

within the DoD. It could be argued that the U.S. military's Joint Staff attempts to do this very thing by validating requirements, but tactical considerations are often overlooked due to a lack of subject-matter expertise and vision. Once again, service parochialism is its own worst enemy, a hindrance to transformation, and will result in a full modernization of the military much later than possible—and given the poor conditions under which transformation must be pursued, the RMA, as originally defined by Michael Roberts, is not a reasonable expectation in the near future.

Technology is the crux the potential transformational change, or "informatization" RMA. While it is certain that technology advances in the late 20th century have changed society, insofar as ease of communications, global inter-connectivity, and the relative speed at which information dissemination and distribution occurs, I would argue that these advances have not fundamentally changed society to any significant degree (Roberts' first criteria of a RMA). While there are those that would argue that society was forced to change because technology now touches virtually everything Americans do, the fact remains that if it all went away tomorrow, life as it currently exists would only be less convenient, responsive, and immediately gratifying.

Second, as a RMA usually involves, or is spurred by, a significant technology change, networked organizations merely contribute to efficiency and allow the U.S. to remain one step ahead of its competitors. U.S. information superiority allows the decision cycle to be a little faster than its adversaries, but I do not believe that a marginal increase in speed or efficiency constitutes a revolution; an evolution would seem to be more accurately descriptive. Only when the military can effectively gain a virtual information monopoly (where we know everything, and we have the ability to keep an adversary from knowing anything other than what we allow him to know) will the concept be truly revolutionary.

Third, a RMA results in a change in the size of military forces on the battlefield. While many of the current systems arguably give the U.S. the capability to operate as smaller, more distributed forces in a decentralized and de-controlled manner, U.S. doctrine and organization has not changed in any significant fashion in order to capitalize on this capability. This notwithstanding, the transformational changes envisioned for the DoD are merely designed to make the U.S. military lighter and more flexible, but only with an emphasis on the conventional forces. There is more of an emphasis on less weight than of size of forces on the battlefield. In Iraq, for example, the decentralization and de-control of Brigade/Task Force-sized elements is more of an operational necessity driven by the confining and restrictive nature of the urban battlefield, than by a desire to operate in a more distributed or networked manner. There will be those that will contend that the U.S. military was able to conduct Operation IRAQI FREEDOM with significantly less forces than Operations DESERT SHIELD/DESERT STORM, but this "test drive" of Secretary Rumsfeld's new warfighting concept proved little given the quality of the enemy engaged. While the Iraqis may have been the world's third largest military force, there is something to be said for quality over quantity. The relative ease as which U.S. forces achieved initial victory over Iraqi military units during the most recent campaign must be tempered by the fact that the U.S. wasn't really challenged enough to emphatically prove anything.

Lastly, true RMAs result in a change in doctrine and strategy. To date, there have been few, if any, changes in U.S. doctrine or strategy based on information-based technologies—we just do the same things we've always done, just slightly faster. Some would possibly contend that the U.S.'s edge in information systems has allowed our military to support the national policies of preemptive strikes and preventative wars. Once again, I would caution against such conclusions, because those policy decisions are based more on nonproliferation/CP goals than

any goal to exploit the advantages and potential capabilities of U.S. information and technology-based systems. It is out of pure necessity (possibly desperation) that the U.S. has implemented such national policies; they are attempts to protect national interests from potential users of WMD—not a pursuit of a RMA.

It would be an easy case to argue that there have been dire unintended consequences born from the U.S.'s conventional military superiority. As such, there are very few potential adversaries that would ever consider challenging the U.S. military on the conventional battlefield. As the guerrillas in Iraq have obviously observed and are currently exploiting (as did the NVA in Vietnam, the clan warlords in Somalia, the *Taliban* in Afghanistan, and *Al-Qaeda* worldwide), the U.S. military is ill-prepared to deal with threats on either side of the conventional band of the spectrum of conflict (WMD and LIC). Adversaries of the U.S. realize that they must attack their enemy where he is weakest, and the U.S. is most vulnerable to the employment of WMD and in the application of guerrilla tactics during LIC. I would argue that the DoD should not want to transform itself in any other way other than by thinly modernizing or incrementally transforming, because to do otherwise would only further encourage its conventional adversaries to pursue methods of engaging the U.S. in ways that our military is ill-prepared to counter—truly asymmetric warfare. GWOT targets already know they have to fight us asymmetrically, yet DoD is still not sufficiently investing in systems essential to fighting terror nets and guerrillas. This argument relies heavily on my hypothesis that if the military were to fully modernize or execute a transformational change, the institutional conviction in the current warfighting paradigm would result in only marginally increased capabilities, and would have a limited effect outside of the conventional spectrum of conflict. Any benefit gained outside of the conventional warfighting arena would be a "fringe benefit" or unintended

consequence, as opposed to the goal or focus of a paradigm shift; and not what SOF needs to effectively fight the GWOT in the future.

A wise professor once told me, "There is danger in reckless change, and reckless danger in blind conservatism." Unfortunately, I believe this conservatism and its associated preferences results in the U.S. military's norm of innovative and transformational failure. Not withstanding the institutional biases towards "making it work" with what they have, "product champions," overwhelming civilian intervention, and innovative-friendly career paths would all be required to literally force the DoD to pursue anything other than incremental transformation. While there are those who would contend that Secretary Rumsfeld can "force-feed" transformational change, I would argue that although an extremely powerful and influential individual, he does not have adequate political backing, or a sufficiently comprehensive and integrated vision to see his ideas through to fruition—the stars are no longer aligned (assuming that he might have been able to do something of this magnitude immediately after the attacks of 9/11). In this case, I do not think the military's conservatism is necessarily a bad thing, as it necessarily protects our national security by changing itself only when warranted, as opposed to executing whimsical changes based on fads or deficient doctrine based on selective historical interpretation. Transformational change at this point would be much too technology-centric, and based on results against, at best, mediocre adversaries.

While it is believed that a significant technological change often paves the way for true RMA, the information systems technology that would lead to the military's potential RMA has too many critical vulnerabilities and inherent weaknesses that would further push its adversaries towards asymmetric warfare. If a relatively inexpensive nuclear device (or similar device with EMP effects) could totally disable all of the information-based systems that the total transformation of the U.S. military would logically be based upon, path dependent and single-

point-of-failure systems could be easily compromised and exploited by an imaginative, resourceful, dedicated, and financially-constrained enemy. In my opinion, U.S. military leadership thinks that the single-point-of-failure, information-centric, and technology-based warfighting paradigm is too risky a proposition on which to base the nation's defense. As was proven in Somalia in 1993, high-technology solutions will not always be successful over enemies using low-technology strategies. Similarly, nineteen terrorists using low-technology weapons, transportation, and information systems were able to do more than $1.7 trillion in damage to the U.S. economy with minimal resources.

Maybe what is needed for the U.S. at this juncture, is a strategy similar to that of the Israeli Defense Force (IDF) 1948-1982. They were less innovative in the area of warfighting concepts, but, compared to their adversaries, much more so in their ability to adopt and effectively integrate existing concepts to counter the threat they faced in the Middle East. Their use of a more selective acquisition strategy to match technology and tactics might be more feasible for application within the DoD. This would seem more reasonable given where our military currently stands with regards to a true RMA.

While my observations and analysis can be considered as less than overly optimistic, I believe they are realistic interpretations of the current state of affairs with the DoD. When compared to post-WWI Germany, the U.S. does not currently find itself under the same favorable conditions that would spur a transformational change in the military. There are simply too many significant conditions unsatisfied to permit such a leap at this time, or at any time in the foreseeable future. In my opinion, the U.S. will continue to reinforce success by incremental changes in the conventional arena—at the expense of the other things that it does not do as well. I also conclude that the U.S. military should not want to radically transform itself given the "new" threats it is facing in the post-Cold War era. Asymmetric warfare is the U.S.'s most

challenging venue, and the less the U.S. forces its potential adversaries down that road, the more secure its national defense will be in the near-run. The U.S. will get more "bang for its buck" by pursuing innovative ways to use the technologies it already possess to mitigate risks it has already accepted in the extreme (WMD and LIC) sectors of the spectrum of conflict. Full utilization of the capabilities the U.S. military already possesses, but is not optimally employing, could arguably contribute significantly to minimizing risks it currently encounters in its defense posture. Unfortunately, you can't have your cake and eat it too, so the U.S. military should better cultivate innovative thinkers (read human capital investment), who are afforded the latitude to fully exploit the U.S.'s capabilities-based force structure to cover more area along the spectrum of conflict. In short, the U.S. military should develop a more holistic approach to warfighting in order to better defend against threats outside of the conventional arena, by thinly modernizing under the umbrella of incremental transformation.