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Clausewitz and World War IV

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The essence of every profession is expressed in the writings of its unifying theorists: Freud for psychology, Adam Smith on economics, Justice Marshall on law, and — depending on one's preferences — Marx or Jefferson on governance. War is no exception. The 19th-century Prussian writer Carl von Clausewitz is regarded as a prophet whose views on the character and nature of war have held up best over the past two centuries.

Periodically, changes in the culture, technology, economics or demographics induce movements to revise the classic masters. After the Great Depression, Keynes amended Smith, behavioralists supplanted Freud, Marshall gave way to Oliver Holmes, who eventually surrendered to the revisionist doctrines of Hugo Black and Earl Warren. The profession of arms, perhaps more than any other profession, has been — is "blessed" the right word? — by intellectual revisionists more frequently perhaps because armed conflict is the most complex, changeable and unpredictable of all human endeavors. And history has shown, tragically, that failure to amend theories of conflict in time has had catastrophic consequences for the human race.

Changes in theories of war come most often during periods of historical discontinuity. Events after 9/11 clearly show that we are in such a period now. Unfortunately, contemporary revisionists to the classical master have not been well treated in today's practical laboratory of real war. In the moment before Sept. 11, 2001, the great hope was that technology would permit the creation of new theories of war. This view, influenced by the historical successes of the U.S. in exploiting technology, has been carried to extremes by some proponents of "effects-based and net-centric operations." These true believers visualized that sensors, computers and telecommunications networks would "lift the fog of war." They postulated that victory would be assured when admirals and generals could sit on some lofty perch and use networks to see, sense and kill anything that moved about the battlefield. Actions of the enemy in Iraq have made these techno-warriors about as credible today as stockbrokers after the Great Depression.

Theory abhors a vacuum as much as nature, so newer revisionists have popped up in profusion to fill the void left by the collapse of technocentric theories of war. One philosophy proposes to build a new theory of war around organizational and bureaucratic efficiency. Build two armies, so the proponents argue, one to fight and the other to administer, and the new age of more flexible and adaptive military action will begin. Another group of theorists seeks to twist the facts of history into a pattern that brings us to a fourth generation of warfare, one that makes all Clausewitzian theories of state-on-state warfare obsolete. Thus Western states are threatened by an amorphous, globally based insurgent movement. The inconvenience of Middle Eastern states collapsing and reforming in the midst of a state-dependent terrorist environment makes this fourth generationalist assault on the master difficult to sustain, if not actually embarrassing.

To be generous, each of these revisions contains some elements of truth. But none satisfies sufficiently to give confidence that Clausewitz can be amended, much less discarded. To be sure, networks and sensors are useful, even against terrorists, particularly in ground warfare at the tactical level. Armies should be reorganized to fight irregular wars more efficiently. And the influence of the state in irregular war must be revised to accommodate the realities of nonstate threats or, perhaps more accurately, not-yet-state threats; Osama bin Laden's first desire is for his own caliphate, or even emirate. But at the end of the day — and in light of the bitter experiences of recent years — it's clear that none of these rudimentary attempts at revision possesses the intellectual heft or durability to challenge the tenets of the classic master of conflict theory.

THE AGE OF 'AMPLIFIERS'

Enter Alan Beyerchen, distinguished historian at Ohio State University. He's adopted a fundamentally different approach and by doing so has captured the intellectual high ground in the battle to amend theory in light of modern war's realities: Beyerchen would embrace rather than replace the master. Beyerchen has developed a taxonomy of war in the modern era in terms of four world wars. Each war was shaped by what he calls "amplifying factors." Amplifiers are not "multipliers" or "enablers" in that their influence on

the course of war is nonlinear rather than linear; amplifiers don't simply accelerate the trends of the past, they make war different.

For example, World War I was a chemists' war in that the decisive strategic advantage on the battlefield was driven in large measure by new applications of chemistry and chemical engineering. The war should have ended for the Germans in 1915 when their supplies of gunpowder nitrates exhausted. But the synthesis of nitrates by German scientists allowed the war to continue for another three horrific years. World War II was a physicists' war. To paraphrase Churchill, the atom bomb ended the conflict, but exploitation of the electromagnetic spectrum in the form of the wireless and radar won it for the allies. "World War III" was the "information researchers'" war, a war in which intelligence and knowledge of the enemy and the ability to fully exploit that knowledge allowed the U.S. to defeat the Soviet Union with relatively small loss of life.

THE INFORMATION AGE

Most strikingly, Beyerchen places what is popularly known as "transformation" at the end rather than the beginning of an epoch in which the microchip accelerated the technology of the information age but only after the culmination point of the information age was reached and the war was substantially won. In other words, the value of net-centrism as an amplifier — a factor that fundamentally shapes the nature of conflict — has passed; its formative influence on the course of war is over. Al-Qaida's success in Iraq simply drives the last nail in its coffin.

Think of the shifts between world wars as tectonic rather than volcanic events. The physicists' war did not simply erupt to supplant the chemists' war. Their respective influences as amplifiers simply diminished over time. Amplifiers still retain influence: Armies still use chemistry and physics (and most certainly networks) to gain advantage on the battlefield. The danger is that a military force will remain devoted to an amplifier long after it can no longer offer truly decisive returns. Thus, by Beyerchen's logic, we may be spending trillions on old amplifiers, on better chemistry, better physics and better information technologies, only to gain marginal improvements, a few additional few knots of speed, bits of bandwidth and centimeters of precision. In doing so, the question that begs itself is: Are we ignoring the amplifying factor that promises to be truly decisive, that might win World War IV at very little cost?

In searching for this "emerging amplifier," Beyerchen returns to Clausewitz's basic insight: that war is influenced primarily by human beings rather than technology or bureaucracy. The problem in the past has been that the human factor could never be a significant amplifier simply because its influence was relatively fixed and difficult to exploit; humans have been considered constants more than variables. Yes, soldiers could be made better through conditioning, selection, psychological tuning and, since the last century, through education. But, ultimately, the human factor has usually come down to numbers. Bigger battalions make better armies. Clausewitz did allow for the amplifying factor of genius in war — he fought repeatedly against Napoleon. But he conceded that human frailties made the identification and nurturing of genius problematic.

WINNING WORLD WAR IV

Beyerchen's idea is that the human and social sciences will change Clausewitz's perception of the constancy of the human influence in war. In effect, he argues that we are beginning the tectonic shift into World War IV, the epoch when the controlling amplifier will be human and biological rather than organizational or technological. From his theory we can postulate a new vision of the battlefield, one that shifts from the traditional linear construct to a battlefield that is amoebic in shape; it is distributed, dispersed, nonlinear, and essentially formless in space and unbounded in time. This war and all to follow will be what I would call "psycho-cultural" wars.

Let's come down from the clouds a bit: Experiences in Iraq and Afghanistan have convinced many in the military intellectual community of the value of psycho-cultural factors in war, but the idea that these factors are now decisive, that indeed they comprise the battle space, may be a tough sell. After all, American forces have won three world wars through the efficient application of technology. And we have grown generations of generals who have been taught and have learned by their own experience that victories come from building better things. Our fixation on technology — our very technological success — has led us to believe that the soldier is a system and the enemy is a target. Soldiers are now viewed, especially by this U.S. Defense Department, as an "overhead expense," not a source of investment. Viewing war too

much as a contest of technologies, we have become impatient and detached from those forms of war that do not fit our paradigms. Technocentric solutions are in our strategic cultural DNA.

Moreover, even if we were not burdened with the baggage of our past successes, trying to divine the depths of the coming human and biological era of war would be as problematic today as anticipating the arrival of the digital age immediately after World War II. Wars, blessedly, are fought infrequently, and epoch-defining conflicts are even more rare. Our base of experience for anticipating future events is limited to experimenting in the laboratory of war; we only discover that tectonic plates are moving when we feel the ground shake. We can perhaps say that Korea and the first Afghan war are the alpha and omega of World War III but can only dimly begin to see the plates of our new world war.

And so let us stipulate that Iraq and the second Afghan war are the beginnings of a new era, but let's also be extremely cautious not to forecast so much as to anticipate what these wars portend from the human and cultural perspective. Let's not look for a level of precision or prediction that we cannot achieve and is likely to lead us astray.

Building on Beyerchen, here's what I anticipate current conflicts in the Middle East and elsewhere are telling us about what is to come. In a nutshell: World War IV will cause a shift in classical centers of gravity from the will of governments and armies to the perceptions of populations. Victory will be defined more in terms of capturing the psycho-cultural rather than the geographical high ground. Understanding and empathy will be important weapons of war. Soldier conduct will be as important as skill at arms. Culture awareness and the ability to build ties of trust will offer protection to our troops more effectively than body armor. Leaders will seek wisdom and quick but reflective thought rather than operational and planning skills as essential intellectual tools for guaranteeing future victories.

As in all past world wars, clashes of arms will occur. But future combat will be tactical, isolated, precise and most likely geographically remote, unexpected and often terribly brutal and intimate. Strategic success will come not from grand sweeping maneuvers but rather from a stacking of local successes, the sum of which will be a shift in the perceptual advantage — the tactical schwerpunkt, the point of decision, will be very difficult to see and especially to predict. As seems to be happening in Iraq, for a time the enemy may well own the psycho-cultural high ground and hold it effectively against American technological dominance. Perceptions and trust are built among people, and people live on the ground. Thus, future wars will be decided principally by ground forces, specifically the Army, Marine Corps, Special Forces and the various reserve formations that support them.

Clausewitz tells us that the side that holds the initiative will ultimately prevail. In this new era, the initiative will be owned by the side that controls time. As retired Lt. Gen. David Barno, former commander of U.S. and coalition forces in Afghanistan, is fond of saying, "In Afghanistan, Americans have all the wrist watches but Afghans have all the time." The enemy will attempt to control the clock with the strategic intent of winning by not losing. He will use the clock to wear down American resolve. Management of the clock will allow him to use patience as a means to offset American superiority in killing power. His hope is to leverage our impatience to cause us to overreact with inappropriate use of physical violence. Perception control will be achieved and opinions shaped by the side that best exploits the global media. And there is another sense of the clock that is important to appreciate. We are in a race between the rogue states or nonstate terrorists acquiring and using nuclear weapons versus our acquiring and deploying enough psycho-cultural armament to beat them on the ground. But even without nukes, the enemy has a natural advantage. He presents a paradox that plays to his intrinsic strengths. You must support us, he says, in spite of our brutality, or support the outsider who may be more humane but who is not part of our religion, culture, clan, tribe or ethnicity. And, he can say, I will always be here; will the Americans?

THE ELEMENTS OF VICTORIES

How can we discover the path to victory in these future wars? Chemistry had little practical wartime utility when the irreducible elements of knowledge were earth, air, fire and water. During World War I, chemists learned to analyze and design molecules for desired functions. Applications quickly emerged for explosives, propulsion and poison gas. Only in the past few decades have the foundations of the social sciences advanced to the point that they might become the elements for victory. And until the military intellectual community acknowledges that virtually all failures in Afghanistan and Iraq were human rather than technological — perhaps still an open question — will the social sciences attract much interest as

amplifiers. Can we yet say we understand the enemy's culture and intent? The evidence thus far is that we have been intellectually, culturally, sociologically and psychologically unprepared for this kind of war. To me, the bottom line is clear: If the single most important objective for the first three world wars was to make better machines, then surely the fourth world war corollary will be to make better soldiers, more effective humans. To do so, soldiers need improved social science in nine areas:

Cultural awareness: In Iraq, a curtain of cultural ignorance continues to separate the good intentions of the American soldier from Iraqis of good will. Inability to speak the language and insensitive conduct become real combat vulnerabilities that the enemy has exploited to his advantage. The military of the future must be able to go to war with enough cultural knowledge to thrive in an alien environment. Empathy will become a weapon. Soldiers must gain the ability to move comfortably among alien cultures, to establish trust and cement relationships that can be exploited in battle. Not all are fit for this kind of work. Some will remain committed to fighting the kinetic battle. But others will come to the task with intuitive cultural court sense, an innate ability to connect with other cultures. These soldiers must be identified and nurtured just as surely as the Army selects out those with innate operational court sense.

Social science can help select soldiers very early who possess social and cultural intelligence. Likewise, scientific psychology can assist in designing and running cultural immersion institutions that will hasten the development of culturally adept soldiers and intelligence agents. Cultural psychology can teach us to better understand both common elements of human culture and how they differ. An understanding of these commonalities and differences can help gain local allies, fracture enemy subgroups, avoid conflicts among allies, promote beneficial alliances and undermine enemy alliances.

Building alien armies and alliances: World War IV will be manpower-intensive. The U.S. cannot hope to field enough soldiers to be effective wherever the enemy appears. Effective surrogates are needed to help us fight our wars. The Army has a long tradition of creating effective indigenous armies in such remote places as Greece, Korea, Vietnam, El Salvador and now Iraq. But almost without exception, the unique skills required to perform this complex task have never been valued, and those who practice them are rarely rewarded. Today's soldiers would prefer to be recognized as operators rather than advisers. This must change. If our strategic success on a future battlefield will depend on our ability to create armies from whole cloth — or, as in Iraq, to remove an army that has been part of the problem and make it a part of the solution — then we must select, promote and put into positions of authority those who know how to build armies. We must cultivate, amplify, research and inculcate these skills in educational institutions reserved specifically for that purpose. We must also do this pre-emptively or prophylactically by building the most suitable psycho-cultural infrastructures, both in the theater of war and at home.

Perception shaping as art, not science: People in many regions of the world hate us. They have been led to these beliefs by an enemy whose perception-shaping effort is as brilliant as it is diabolical. If the center of gravity in World War IV is the perception of the people, then perhaps we should learn how the enemy manipulates the people. Information technology will be of little use in this effort. Damage is only amplified when inappropriate, culturally insensitive or false messages are sent over the most sophisticated information networks. Recent advances in the social psychology of leadership and persuasion can help train soldiers to win acceptance of local populations and obtain better intelligence from locals. Recent cognitive behavioral therapy has documented remarkably effective techniques for countering fear and abiding hatred such as we see in the Middle East. Our challenge is to create a human science intended specifically for shaping opinions, particularly among alien peoples. This task is too big for a single service or event for the Defense Department. It must be a national effort superintended by distinguished academics and practitioners in the human sciences who understand such things, rather than by policy-makers who have proven in Iraq that they do not.

Inculcate knowledge and teach wisdom: In Iraq and Afghanistan, junior soldiers and Marines today are asked to make decisions that in previous wars were reserved for far more senior officers. A corporal standing guard in Baghdad or Fallujah can commit an act that might well affect the strategic outcome of an entire campaign. Yet the intellectual preparation of these very junior leaders is no more advanced today than it was during World War III. However, the native creativity, innovativeness and initiative exhibited by these young men and women belie their woeful lack of psycho-social preparation.

Learning to deal with the human and cultural complexities of this era of war will take time. Leaders, intelligence officers and soldiers must be given the time to immerse themselves in alien cultures and reflect on their profession. Yet in our haste to put more soldiers and Marines in the field, we risk breaking

the intellectual institutions that create opportunities to learn. Today, we are contracting out our need for wisdom by hiring civilians to teach in military schools and colleges. Educational science has long understood that reading and listening are the least effective means for retaining or increasing knowledge. Teaching is at least an order of magnitude more effective, while researching and writing are far better still.

Tactical intelligence: The value of tactical intelligence — knowledge of the enemy's actions or intentions sufficiently precise and timely to kill him — has been demonstrated in Iraq and Afghanistan. Killing power is of no use unless a soldier on patrol knows who to kill. We should take away from our combat experience a commitment to leverage human sciences to make the tactical view of the enemy clearer and more certain, to be able to differentiate between the innocents and the enemy by reading actions to discern intentions.

The essential tools necessary to make a soldier a superb intelligence gatherer must be imbedded in his brain rather than placed in his rucksack. He must be taught to perceive his surroundings in such a way that he can make immediate intuitive decisions about the intentions of those about him. His commanders must be taught to see the battlefield through the eyes of his soldiers. He must make decisions based on the gut feel and developed intuition that come from an intelligence gatherer's ability to see what others cannot. There is a growing science of intuition and gut feeling, and these capabilities might be enhanced by this new capability and its allied technology. Machines and processes might make intelligence easier to parse and read. But knowing the enemy better than he knows us is inherently a psycho-cultural rather than a technological, organizational or procedural challenge.

Psychological and physiological tuning: Life sciences offer promise that older, more mature soldiers will be able to endure the physical stresses of close combat for longer periods. This is important because experience strongly supports the conclusion that older men make better close-combat soldiers. Scientific research also suggests that social intelligence and diplomatic skills increase with age. Older soldiers are more stable in crisis situations, are less likely to be killed or wounded and are far more effective in performing the essential tasks that attend to close-in killing. Experience within special operations units also suggests that more mature soldiers are better suited for fighting in complex human environments. Science can help determine when soldiers are at their cognitive peak. Psychological instruments are available today to increase endurance and sustained attention on the battlefield. Today, conditioning science has succeeded in keeping professional athletes competitive much longer than even a decade ago. These methods should be adapted to prepare ground soldiers as well for the physical and psychological stresses of close combat.

Develop high performing soldiers and small units: Close combat has always been a personal and intimate experience. Close combat is the only skill that cannot be bought off the street or contracted out. In all of our world wars, success of campaigns has been threatened by a shortage of first rate, professional infantrymen. Inevitably, a protracted campaign drains the supply of intimate killers. Many infantrymen are sent into close combat with about four months' preparation. What little social science the research and development community has devote to understanding the human component in war has not been spent on close-combat soldiers. We know far more about pilot and astronaut behavior than we do about those who in the next world war will do most of the killing and dying, the close-combat soldiers. If dead soldiers constitute our greatest weakness in war, then we should, as a matter of national importance, devote resources to making them better.

The enemy has drawn us unwillingly into fighting him at the tactical level of war where the importance of technology diminishes in proportion to the value of intangibles. Thus, winning World War IV will require greater attention to the tactical fight. Technology will play a part, to be sure. Our small units, squads and platoons should be equipped with only the best vehicles, small arms, sensors, radios and self-protection. But more important to victory will be human influencers such as the selection, bonding, and psychological and physical preparation of tactical units.

As the battlefield expands and becomes more uncertain and lethal, it also becomes lonelier and enormously frightening for those obliged to fight close. Most recent American campaigns have been fought in unfamiliar and horrifically desolate terrain and weather. Modern social science offers some promising solutions to this problem. Recently, we have learned that soldiers can now be better tuned psychologically to endure the stresses of close combat. Tests, assessments, role-playing exercises and careful vetting will reduce the percentage of soldiers who suffer from stress disorders after coming off the line.

Cognitive sciences can be leveraged to enhance small-unit training in many ways, from speeding the acquisition and enhancing the retention of foreign languages to training soldiers in command decision simulators to sharpen the ability to make decisions in complex tactical situations. Cognitive sciences can be employed in the creation of highly efficient and flexible training programs that can respond to the ever-changing problems. Models of human cognition can also be used to diagnose performance failures during simulated exercises. These measures can assist in training soldiers to attend to hidden variables and to properly weigh and filter the many factors that determine optimal performance in complex decision-making tasks.

But the social sciences can accelerate the process for building great small units only so much. The one ingredient necessary for creating a closely bonded unit is time. The aging of a good unit, like that of a good wine, cannot be hurried. Platoons need at least a year to develop full body and character. Because the pipeline will be so long and the probability of death so great, the ground services must create many more close-combat units than conventional logic would demand. The lesson from Iraq and Afghanistan is clear: In future wars we can never have too many close-combat units. The performance of small ground units will be so critical to success on the World War IV battlefield that we should replace the World War III methods of mass producing small units and treat them more like professional sports teams with highly paid coaching and dedicated practice with the highest quality equipment and assessment methods.

Leadership and decision-making: World War IV will demand intellectually ambidextrous leaders who are capable of facing a conventional enemy one moment, then shifting to an irregular threat the next moment before transitioning to the task of providing humanitarian solace to the innocent. All of these missions may have to be performed by the same commander simultaneously. Developing leaders with such a varied menu of skills takes time. Unfortunately, World War IV will be long and will occupy ground leaders to the extent that time available to sharpen leadership skills will be at a premium.

There are precedents for developing these skills. In Vietnam, the air services developed "Top Gun" and "Red Flag" exercises as a means of improving the flying skills of new pilots bloodlessly before they faced a real and skilled opponent. Recent advances in the science of intuitive decision-making will give the ground services a similar ability to improve the close-combat decision-making skills of young leaders. Senior commanders will be able to use these tools to select those leaders with the intuitive right stuff. Over time, leaders will be able to measure and assess improvements in their ability to make the right decisions in ever more complex and demanding combat situations. They will have access to coaches and mentors who will pass on newly learned experiences with an exceptional degree of accountability and scientific precision.

Intuitive battle command: The Army and Marine Corps learned in Afghanistan and Iraq that operational planning systems inherited from World War III would no longer work against an elusive and adaptive enemy. They were forced to improvise a new method of campaign planning that emphasized the human component in war. Gut feel and intuition replaced hierarchical, linear processes. They learned to command by discourse rather than formal orders. Information-sharing became ubiquitous, with even the most junior leaders able to communicate in real time with each other and with their seniors. Dedicated soldier networks have fundamentally altered the relationship between leaders and led and have changed forever how the Army and Marine Corps command soldiers in battle.

Developing new and effective command-and-control technologies and procedures will do no good unless we educate leaders to exploit these opportunities fully. We have only begun to leverage the power of the learning sciences to battle command. Teaching commanders how to think and intuit rather than what to think will allow them to anticipate how the enemy will act. Convincing commanders to leave World War III-era decision-making processes in favor of nonlinear intuitive processes will accelerate the pace and tempo of battle. The promise is enormous. But we will only achieve the full potential of this promise if we devote the resources to the research and education necessary to make it happen.

STRANGE PARTNERS

Military leaders have had three world wars to establish comfortable relationships with chemists, physicists and information technologists. This was a marriage of necessity, but it has worked. The relationship between the military and human and behavioral scientists has, to date, been one of antipathy and neglect. Academics and behavioral practitioners have rarely violated the turf of the soldier. Many are turned off by the prospects of relating their professions to war. But most take the war against terrorism

seriously. If the Army and Marine Corps give them the opportunity, they will gladly turn the best of their sciences to the future defense of our nation.

We are in a race, and the times demand change. World War IV can only be won by harnessing the social and human sciences as the essential amplifiers of military performance, just as the physical sciences were the amplifiers of past world wars. Such a shift in how the defense community approaches war will require a fundamental shift in military culture. Of course, new planes, ships and combat vehicles will have to be built to win World War IV, but building new social, cultural and learning structures will have to become the first priority for resources within the Defense Department. There is an old saying that the Navy and the Air Force man the equipment and the Army and Marine Corps equip the man. Surely those services that focus on the man rather than the machine should receive a disproportionate share of future defense budgets?

Beyerchen convinces me that we have moved from one world war to the next with little ability to predict how science and human circumstances will dictate our course. We can only imagine how the human and biological sciences will redirect the course of war. What will the new amplifiers be? Will breakthroughs in bioscience make the battlefield more lethal? Will new human and behavioral developments make us more effective in battle? Only time will tell. But none of these questions can be answered by speculation alone. The Defense Department must invest the resources now to realize the potential of psycho-cultural sciences to winning World War IV.

One thing is certain, however: We are in for decades of psycho-social warfare. We must begin now to harness the potential of the social sciences in a manner not dissimilar to the Manhattan Project or the Apollo Project. Perhaps we will need to assemble an A team and build social science institutions similar to Los Alamos or the Kennedy Space Center. Such a transformational change is beyond the resources of a single service, particularly the ground services.

Thus a human and biological revolution will have to be managed and driven by the highest authorities in the nation. I sincerely hope they are listening.

THE EVOLUTION OF WARFARE

THE CHEMISTS' WAR

The decisive strategic advantage on the World War I battlefield was driven by new applications of chemistry and chemical engineering. Germany, for example, exhausted its supplies of gunpowder nitrates in 1915, but the synthesis of nitrates by German scientists allowed the war to continue for another three years.

THE PHYSICISTS' WAR

The atomic bomb ended World War II, but exploitation of the electromagnetic spectrum in the form of wireless communications and radar won it for the allies.

THE INFORMATION RESEARCHERS' WAR

In World War III, intelligence and the ability to fully exploit it allowed the U.S. to defeat the Soviet Union. Information-age concepts of transformation and net-centrism mark the end of this epoch.

THE SOCIAL SCIENTISTS' WAR

To win World War IV, the military must be culturally knowledgeable enough to thrive in an alien environment. Victory will be defined more in terms of capturing the psycho-cultural rather than the geographical high ground. Understanding and empathy will be important weapons of war.