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JOINT VISION 2010

ACCELERATED CUMULATIVE WARFARE

JEFFREY KLINE

WELCOME TO THE NEW STRATEGY LECTURE SERIES!
Today's Lecture:
"Joint Vision 2010: *A Route to Accelerated Cumulative Warfare"*

THE LECTURE BEGINS

NOISE RISES FROM VARIOUS CONVERSATIONS AS UNIFORMED officers and civilians file into the auditorium. The audience is a broad cross-section of military and diplomatic professionals who are proud of their knowledge and operational expertise in their respective fields. They look forward to hearing the presentation, then providing their own critical analyses of its content. A slightly nervous naval officer stands at the base of the stage watching his contemporaries settle. It is his thesis that would be presented and critiqued. The spirits of classical military strategists are also gathering. They, too, are interested in hearing the presentation.

This paper was the First Place Winner in the 1997 Chairman of the Joint Chiefs of Staff Strategy Essay Competition. Commander Jeffrey Kline, USN, was a student at the National War College at the time it was written.

"What!" exclaims the Antoine-Henri Jomini, "A sailor to discuss *military* strategy? I believe we may be wasting our time."

Julian Corbett, English writer of maritime strategy, starts to respond to this challenge but defers when he hears the ancient Chinese warrior-philosopher Sun-Tzu reply, "The source of knowledge is unimportant if it is a relevant truth. We are here to inspire thought, not to judge the meal before eating it. Now silence, the young man begins to speak!"

As the naval officer walks to the stage and the noise dies about the lecture hall, Jomini whispers to the Prussian spirit seated next to him, "Carl, I have real problems understanding that old guy. He always takes such an indirect approach when making a point."

The first slide appears on a wide screen at the center of the stage:

> UNDER THE NEW CONDITIONS OF WARFARE, THE *CUMULATIVE* EFFECT OF PARTIAL SUCCESS, OR EVEN MERE THREAT, AT A NUMBER OF POINTS MAY BE GREATER THAN THE EFFECT OF COMPLETE SUCCESS AT ONE POINT.[1]
>
> *LIDDELL HART*
>
> THERE IS A TYPE OF WARFARE IN WHICH THE ENTIRE PATTERN IS MADE UP OF A COLLECTION OF LESSER ACTIONS, BUT THESE LESSER OR INDIVIDUAL ACTIONS ARE NOT SEQUENTIALLY INTERDEPENDENT. EACH INDIVIDUAL ONE IS NO MORE THAN A SINGLE STATISTIC, AN ISOLATED PLUS OR MINUS, IN ARRIVING AT THE FINAL RESULT.[2]
>
> *WYLIE*

The speaker begins, "Imagine for a moment a moonless night blanketing a dark, green sea. Silently, a thin black periscope emerges above the surface and locks on its prey. The operator below confirms the target's GPS position through the periscope's laser range finder and nods to his weapons operator. Within moments, a weapon is on its way to destroy the target. The periscope is raised again only to confirm the kill, then the unit relocates to attack another target within its operating area. Fewer

than 15 miles away, in other operating areas, similar engagements occur as allied units strike independently at targets located near their assigned positions."

"Many of you recognize this scenario," continues the lecturer, "as a submarine campaign against surface ships. Admiral Wylie cited this form of warfare as an example of cumulative strategy—a campaign based not on a sequence of engagements leading to a primary objective, but of independent events that have a cumulative effect on the enemy's capability to wage war."

"However, I was NOT describing a submarine campaign. Instead, the sea of dark green was one of vegetation, the units not submarines but light, powerful infantry units operating throughout a battle region. Inserted behind and around enemy lines, these future units are equipped with impressive organic communication, sensor, and weapon capabilities. They are supported by an overarching command and control umbrella and allotted an offshore weapons cache from ships and aircraft. Their job is to establish a sensor mesh in their assigned area,[3] net with the larger command structure, locate and destroy assigned objectives or targets of opportunity, and prevent the enemy's use of their region for maneuver or resupply. Theirs is not to 'occupy' territory, only to prevent the enemy's use of it. As the campaign progresses, and when the opportunity arises, these units could direct their efforts to *massing fires* against a pivotal target as directed by a central coordinating commander."

A second slide flashes on the screen:

> THUS THE PINNACLE OF MILITARY DEPLOYMENT APPROACHES THE FORMLESS. IF IT IS FORMLESS, THEN EVEN THE DEEPEST SPY CANNOT DISCERN IT OR THE WISE MAKE PLANS AGAINST IT.[4]
>
> *SUN-TZU*

"What does the enemy commander see on his situation map? His supply units, ammunition depots, unit command centers,

power stations, communication nodes, radar sites, and front-line troops are being struck throughout his operational area in seemingly random attacks. It is as though the Americans are attacking using massive quantities of special operations forces. He is able to receive reports of attacks, but for some reason is unable to transmit back to his troops. With seemingly incredible speed his map blooms with cancerous reports of independent engagements. The enemy commander searches in vain for a center to strike at the American forces. It is chaos!"

"Interesting start," whispers the English scholar Liddell Hart, to Sun-Tzu, "He certainly has a talent for quoting great thought."

"Maybe," Sun-Tzu replies, "Let us see how he develops his strategy."

THE LECTURE CONTINUES

Formless, cumulative warfare—is this a battlefield with no front, no rear areas, no distinction between tactical and strategic targets, nor sequence of battles? Do the strategists quoted above offer a hint at an evolved offensive strategy founded in new technology? This presentation will explore these questions by describing, in terms of military strategic thought, one possible outcome of the goals and technologies detailed in *Joint Vision 2010*. It will also examine the implications and possible weaknesses of a strategy built on information dominance and precision weapons.

The thesis slide appears:

> *JOINT VISION 2010*—WITH ITS PRIMACY OF INFORMATION DOMINANCE, DOMINANT MANEUVER, AND PRECISION WEAPONS—PLANTS THE SEED OF AN EVOLVED THEORY OF WAR THAT USES COMPLETE ASYMMETRIC FORCE THROUGH "ACCELERATED" CUMULATIVE WARFARE.

By spherically enveloping the enemy with simultaneous strikes throughout the theater of operations, accelerated cumulative warfare maximizes the ability to be inside the enemy's Observation-Orientation-Decision-Action cycle (OODA loop),[5] and achieves victory by breaking military and political will via total disorientation. This concept is not new; evidence of the ability to achieve victory through indirect and cumulative methods may be found in several military theorists' writings. However, with the advent of advanced information technologies to minimize the fog and friction of war, and precision weapons to maximize the effect of single engagements, only now does the ability to achieve victory rapidly with this method of offense seem credible and achievable.

ACCELERATED CUMULATIVE WARFARE DEFINED

> CUMULATIVE WARFARE + COMPRESSED TIME FOR EXECUTION ENABLED BY INFORMATION DOMINANCE, PRECISION WEAPONS, DOMINANT MANEUVER AND FOCUSED LOGISTICS = ACCELERATED CUMULATIVE WARFARE!

As previously mentioned, Admiral Wylie, in *Military Strategy*, distinguishes between sequential and cumulative warfare. He cites MacArthur's campaign in the Southwest Pacific and the drive from Normandy to Germany as examples of sequential campaigns. These are actions that rely on a series of discrete steps to achieve their objectives. Conversely, a cumulative strategy is one where no individual engagement is completely dependent on one that proceeds it. The overall result of these individual actions creates a cumulative, or emergent effect on the enemy's ability to conduct war.[6] Wylie cites psychological and economic warfare—specifically World War II submarine campaigns—as examples of cumulative strategy.

Now let's turn to the element of time:

> TIME BECOMES THE CRITICAL DETERMINANT OF COMBAT ADVANTAGE.
>
> *JEFFREY COOPER*
> DOMINANT BATTLE SPACE KNOWLEDGE
> AND FUTURE WARFARE[7]

In *On War,* Carl von Clausewitz stresses surprise and the rapid use of forces while in the offense: "Speed and impetus are its [the attack] strongest elements and are usually indispensable if we are to defeat the enemy."[8] The importance of time in battle to disorient an opponent was further stressed by John Boyd, who believed each opponent in a conflict must execute an OODA loop in order to act, or react, to an adversary's initiative.[9] The player able to execute this OODA loop faster, or to operate at faster tempo, will generate confusion and disorder in the enemy camp.

The concepts of cumulative strategy, time, and dislocation are brought together to execute accelerated cumulative warfare. America's development of technological advantage of near total information dominance combined with precision weapons—and the ability to engage and support land troops to achieve tactical positional advantage—allows the rapid execution of individual engagements anywhere in the battlefield. The ability to compress these engagements in time creates the accelerated cumulative effect of disorientation, confusion, and dysfunction on the enemy.

Harlan Ullman and James Wade describe the capability to apply force rapidly to intimidate and overpower an enemy in *Shock and Awe, Achieving Rapid Dominance.* This view contends that by targeting both the adversary's society and military, leveraging America's advantage to achieve rapid dominance, and applying the critical element of time in execution, sufficient shock and awe can be generated to "deter and overpower an adversary through the adversary's perception and fear of his vulnerability and our own invincibility.[10] The cumulative effects of the continued application

of force to breakdown an enemy's system and society until he is forced to surrender are included in Ullman and Wade's *Shock and Awe* strategy.

How do we achieve the rapid dominance for shock and awe, or obtain the information advantage necessary to execute accelerated cumulative strategy? The Joint Chiefs of Staff provide a guide in *Joint Vision 2010:*

> *JOINT VISION 2010*
> AND THE SERVICE'S INITIATIVES

JV 2010 is the Chairman's conceptual template for channeling the initiatives of the Armed Forces to leverage information and weapon technologies. The document sketches future capabilities and operations closely aligned to Liddell Hart's "distributed aim advance"—an offensive concept that strives to achieve victory through cumulative results by distributing the objectives and goals on the battlefield. It states:

> BY 2010, WE SHOULD BE ABLE TO CHANGE HOW WE CONDUCT THE MOST INTENSE JOINT OPERATIONS. INSTEAD OF RELYING ON MASSED FORCES AND SEQUENTIAL OPERATIONS, WE WILL ACHIEVE MASSED EFFECTS IN OTHER WAYS. INFORMATION SUPERIORITY AND ADVANCES IN TECHNOLOGY WILL ENABLE US TO ACHIEVE THE DESIRED EFFECTS THROUGH THE TAILORED APPLICATION OF JOINT COMBAT POWER. HIGHER LETHALITY WEAPONS WILL ALLOW US TO CONDUCT ATTACKS *CONCURRENTLY* THAT FORMERLY REQUIRED MASSED ASSETS [EMPHASIS ADDED].[11]

JV 2010 calls for the development of four operational concepts—dominant maneuver, precision engagement, full

dimensional protection, and focused logistics—to obtain Full Spectrum Dominance over a future enemy. Briefly, the vision defines these operational concepts as:

- *Dominant Maneuver*—multidimensional application of capabilities to employ *dispersed* forces (air, land, sea and space) to achieve positional advantage and control all dimensions of the battle space
- *Precision Engagement*—the ability to locate, target, employ weapons, and assess damage to an objective or target with a responsive, real-time command and control system
- *Full-dimensional protection*—provide engaged forces continuous multilayered defenses to allow for their complete freedom to deploy, maneuver, and engage
- *Focused logistics*—responsive and flexible delivery of tailored logistics packages at all levels of operations.

The development of these four concepts will enable U.S. forces to dominate all levels of military operations. At the highest intensity of conflict, the synergy provided by complete battlespace dominance, maneuver, and precision weapons will allow for fewer, dispersed forces to employ overwhelming massed effects against the enemy.

Each service is exploring operational concepts that closely parallel the *JV 2010* overarching framework. These concepts seek to maximize the unique contributions the services can provide to the joint battlefield. As a result, the services are tending to polarize toward two gross-level offensive functions:

"SCOUT-AIMERS" AND "SHOOTERS"

The Army "Force XXI" and digitalization of the battlefield initiatives lean toward a lighter, mobile force with more lethal organic

weapons and the ability to accurately locate our own forces and target the enemy. The Marine Corps Sea Dragon laboratory is investigating the capability to generate rapid, effective raids against tactical and strategic targets. As these initiatives evolve, land forces could develop a "scout-aimer" role. The "scout-aimer" forces would be inserted and dispersed throughout the battlefield to provide accurate and real-time knowledge of enemy forces and strategic positions, then rapidly attack targets with organic assets or by directing precision weapons launched from distant "shooters."

Under the accelerated cumulative strategy, these units would access the overarching command, control, and information nets, then act autonomously to establish battle space dominance over their assigned operating area. This is analogous to the way the United States conducted submarine warfare during World War II. The submarine's captain was given general directions and intelligence on the enemy when available and assigned a patrol area to sink enemy shipping. Future land force units would differ in execution only in their ability to access targeting information rapidly, their flexibility in being redirected to other objectives, and their capability to access a remote inventory of weapons from the "shooters."

The "shooters"—responsive, powerful, and stealthy—will trace their origins to the Air Force "Global Engagement" and the Navy "Forward, From the Sea" strategies. Development of air- and sea-based platforms (e.g., Joint Strike Fighter, Arsenal Ship) with precision and submunitions standoff weapons, will provide for engagement of objectives across the tactical and strategic spectrum. In combination with Army land-based fire support forces, these shooters will be assigned in a direct support role for the engaged "scout-aimers" during critical phases of the offense. Their weapons inventory would be predesignated to a particular ground fighting element and be available for immediate access to attack planned targets or targets of opportunity. Additionally, rapidly deployed Air Force and Navy forces will provide initial theater defensive capabilities for own-force, full-dimensional protection and construct

the extensive information and command and control networks required to web dispersed elements of the force together:

COMMUNICATION AND COMMAND: THE NAVY WAY!?

Nonhierarchical information and fusion networks will link the "scout-aimers," "shooters," and commanders. These networks will be the daughters of the current communication and weapon control initiatives such as Cooperative Engagement and strategic command and control systems. The future networks will be characterized by universal access, automatic fusion capability, and advanced decision algorithms. These advances will result in a "flattening" of the command structure and smaller command staffs.[12] Communications and coordination between commanders, dispersed ground forces, and supporting weapons arsenals will be in real time.

Several problems can arise from a traditional centralized command strategy with these new capabilities. The first is micromanagement of the engaged units by layers of commanders and political leaders.[13] An undesirable tendency for group think and collective process decisionmaking occurs when everyone is tempted to "have their say." The outcome is group consensus decisions that tend to be risk adverse.[14] Additionally, on-scene individual initiative is discouraged and ingenuity minimized.

An alternative command strategy to use with nonhierarchical information and fusion networks is "command by negation."[15] Borrowed from the Navy, this concept allows a subordinate maximum freedom to execute a mission or task after receiving general policy guidance and objectives. If the overall commander perceives a situation developing requiring intervention, he makes immediate corrections, gives further guidance, then allows the subordinate to continue executing his tasking. In accelerated

cumulative warfare, an evolved form of "command by negation" would allow ground forces maximum flexibility in their operating areas to establish a local information sensor mesh, then attack predesignated targets or targets of opportunity.[16] Freedom of action and personal initiative by local unit commanders would be maximized under this concept of operation. Senior commanders would be less interested in individual sector engagements and more concerned with the larger cumulative effect on an enemy. When required, however, individual units could mass fire effects through senior command intervention and coordination. This operational concept will require a more decentralized thought process by conventional joint force commanders. It will require them to "let go" of tactical operations, maneuver, and theater resource allocation during execution in order to concentrate on the overall strategic effect against the enemy's ability to counter the offensive.

Another slide appears:

JV 2010 FOCUSED, OR "JUST-IN-TIME," LOGISTICS

As dominant battlespace knowledge helps lift the fog of war, weapons can be used more effectively and efficiently. Real-time knowledge of target location and immediate battle damage assessment will allow commanders to optimize weapon-to-target allocations. In addition, future "smart" weapons will be cheaper to procure and produce. They will not require expensive autonomous guidance systems characteristic of current cruise missiles. Instead, in-flight guidance will be provided by the overarching command and control net. More reliance on forward deployed naval forces, or rapid response air forces, with the capability to host large inventories of this cheaper ordnance will mean more teeth and less tail in the areas of operation. Together, this will make the "remote"

ordnance used by the "scout-aimers" less expensive to produce and more plentiful for use on the battlefield. Rearming, refueling, and feeding the engaged "scout-aimers" will also be possible as tailored resupply packages can be delivered directly to a unit's position or pre-determined supply point.

Now let's fight the war.

FULL SPECTRUM DOMINANCE AND THE OFFENSE

The development of *JV 2010* operational concepts along with the services' initiatives will result in a battlefield where the orientation of the commander is vertical—looking down on the plane of the theater of operations—vice a horizontal FEBA-dominated view. This "death of the FEBA" concept means that all objectives in the theater would be equally accessible to the commander regardless of the enemy's front-line orientation.

ACCELERATED CUMULATIVE WARFARE IN ACTION:
BRIEF SEQUENTIAL CAMPAIGN BY AIR AND NAVAL POWER
INSERTION OF LAND FORCE UNITS
GENERAL OFFENSIVE: SHOCK AND AWE
ACCELERATED CUMULATIVE OFFENSIVE: MODERN MAO!

An example of this slide is a general engagement scenario against a future aggressor, which would begin with a brief sequential campaign for air and sea forces to establish information dominance and full dimensional protection across the theater. Following the area commander's selection of objectives, light and mobile yet organically powerful ground forces would be inserted throughout the theater to deploy their local sensor network and obtain positional advantage over preselected targets. The general offense

would proceed with these forces targeting the rear of the enemy's front line combat units while simultaneously attacking all lines of communication and command nodes. Fires from air, land, and sea forces against a wide spectrum of the enemy's forces would be compressed in so short a time period that they would generate an accelerated cumulative effect causing such a level of general disorientation as to immobilize the enemy's capacity for war.

What would a general engagement scenario against a future aggressor be like? Permit a creative license to convey a vignette through dramatic reading:

PREPARATION, DETERRENCE, ACCESS, AND INFORMATION DOMINANCE

The year is 2018. Over a decade earlier the "Great Islamic Revolution of 2005" had swept several established Middle East governments from power. Two of the new Islamic countries, Syria and Iraq, are allied in a quest to extend the Islamic extremist movement. Under the guise of an international claim for control of disputed water, electric power, and territorial rights from Turkey, the two allies amass their armies on their northern borders.

The old 20th-century NATO security arrangements have become irrelevant as Europe and Russia grew more integrated and prosperous in the last 15 years. Nonetheless, the United States responds to Turkey's plea for help. Weeks before, the United States shared real-time satellite video with the United Nations showing the preparations of the combined Arab armies. Despite world and fellow Arab condemnation, the two allies continue their mobilization.

In response, the President orders the arsenal ship Robinson, *the aircraft carrier* Vinson*—with the Joint Force commander embarked—and three Aegis destroyers to take position off the Syrian coast. In addition, the Air Force AWACS, JSTARS, and tactical aircraft are granted basing rights in Italy and northern Turkey. U.S. Army air-defense batteries, fire-support forces, and armor units are mobilized to follow. The early-arriving forces, along with national sensor capabilities, are tasked to initiate an information mesh throughout the region, position themselves to build a missile defense umbrella for follow-on troops, and provide a credible and*

visible deterrent. Thus begins a brief sequential campaign by U.S. forces to establish information dominance and full dimensional protection across the theater.

Undeterred, and hoping to provide the catalyst for a larger Middle East Islamic war, the armor, missile and air forces of Syria and Iraq strike while U.S. assets are still flowing into theater. U.S.-based strategic and theater tactical air forces assist Turkey's army to slow the Arab offense and establish command of the air space. Modern cruise missiles launched from the decks of the Robinson *and the Aegis destroyers complement air strikes against the enemy's forces. Theater ballistic missile attacks are countered with air defense weapons from Army batteries and Navy ships. Concurrent with the fighting, U.S. forces complete establishing an overall command and control network that is continually updated by remote tactical, airborne, and national sensors.*

SS Gunther *and two other arsenal ships arrive 5 days after the war begins. Immediately assimilated into the command network, their missiles are assigned for use by Army and Marine units scheduled to be inserted into Syria and Iraq for the counter-offense.* Gunther's *missiles and guns have been allocated to an Army task force designated* White Falcon. *Now, 20 minutes prior to commencement of the U.S. and Turkish offensive,* Gunther *receives her first fire mission data transfer.*

"Captain, TAO," says the Tactical Action Officer in Gunther's *Combat Information Center, "We are receiving the first fire mission from Task Force* White Falcon. *"*

Commander Peterson, captain of the decade-old arsenal ship, acknowledges this report by pushing a mike button next to his chair while viewing a large video plot in the middle of the ship's combat center. The plot displays a three-dimensional geographic representation of the battle area. Superimposed on its topographic, oceanographic, and weather data are hostile, friendly, and neutral force positions. Peterson believes the display gives the impression of reconnoitering a miniature Syria from a low-flying helicopter.

"Display the mission profile," orders Peterson to his watch team. In moments a small line originating from a tiny virtual Gunther *appears on the video plot and draws itself through the three dimensional scene to terminate on what appears to be miniature missile launchers. The*

demonstration satisfies the captain. All his systems are functional and prepare for launch.

Within 5 minutes, 50 more fire missions are received and automatically processed by the arsenal ship's weapon systems. Minutes later the vertical launch hatches on Gunther *open and the ship's deck explodes in light as missile after missile flies out of the cells. Hundreds of others follow from aircraft, submarines, and sister arsenal ships as their land forces ashore target and attack enemy positions. The counter offensive has commenced!*

Lieutenant Colonel Tinker commands Task Force White Falcon. *After parachuting into Syria 20 hours before, he now leads his command in establishing their local information mesh, netting into the command network, and targeting enemy positions. In preparation for the offense, Tinker distributes* White Falcon *into sections to attack several targets simultaneously in their 10 x 10-mile operating area. He now watches the offense unfold on a miniature video display similar to* Gunther's *video plot.*

Tinker could select between a theater display to view his supporting ships, aircraft, and fire support batteries, or an operational one that focused on his assigned area. In the theater mode he could also order logistic support, or assess the progress of his fellow commanders in adjacent areas and assist them if necessary. As Gunther's *missiles stream into his operating area to supplement White Falcon's own weapons, however, Tinker concentrates on his tactical display and prepares to adjust his fire plans as battle damage assessments are received. The initial reports are promising. Tinker estimates that it will be no more than 15 hours before* White Falcon *"owns" their operating area.*

Syrian and Iraqi generals do not have time to display, let alone evaluate, the hundreds of engagement reports received from the front and throughout their territory. They had expected strategic strikes, and several of their command centers are in receipt of them, but they search in vain for the focus of the ground offense. The Turks fire on their front lines while the Americans seem to be everywhere at once! Their armor units are attacked from the front, rear, and from above. Large portions of their territory are simply lost to them. Their own computer, radio, and TV waves are filled with American broadcasts—some modified to appear that their own

government was calling for a general surrender! Within hours they lose the ability to communicate, attack, resupply, and defend themselves.

Their political leaders are not discouraged, though. They continue to fight on! After 3 days of fighting, however, the remaining pockets of Syrian and Iraqi forces still resisting have no food, no fuel, no ammunition, and no way to resupply, communicate, or maneuver. In contrast, the Americans fly in needed logistic requirements to their operating forces without interference. American and Turkish armor easily penetrate what the Syrians and Iraqis consider their front lines. The political leaders flee. The remaining colonels sue for peace.

If the initial offensive does not produce sufficient "shock and awe" to result in a quick victory like our scenario, the deployed land units will continue to establish dominance in their sectors to create a debilitating cancer in the enemy's operational area. This form of accelerated cumulative warfare will be analogous to a rapid guerrilla strategy envisioned by Mao Tse-Tung.[17] U.S. land units will operate behind enemy lines, further widening their "guerrilla zones and bases" until the enemy forces are in isolated pockets of resistance. Our rapid "modern Mao" strategy, however, will give the American "guerrillas" superior logistics, weapons, and command and control capabilities. Their actions, in concurrence with the strategic efforts of air, naval, and information warfare assets, will create a spatial and temporal envelopment of the enemy.

A recent operation demonstrating the cumulative effect of dispersed objectives is the NATO air strikes against the Bosnian Serbs. Multiple targets were selected for simultaneous strikes to achieve an overall demoralizing effect. The Serb center of gravity was identified as the will to continue fighting. Consequently, the objective of the offense was to attack their will by demonstrating the hopelessness of armed resistance against a superior technological force.[18] The operation was a success.

"That concludes the body of my presentation," the lecturer announces. "We will now take a 15-minute break before summarizing." As the audience leaves the lecture hall, the spirits of classical military strategists gather in a circle to begin their

evaluation of this "envelop warfare" and its "accelerated cumulative" strategy.

FROM MANEUVER TO ENVELOP WARFARE: A SEMINAR WITH THE MASTERS OF WAR

"Nothing new here," explains Clausewitz. "In my writings I state, 'The conduct of war depends entirely on the instrument employed'[19] and of course, 'The art of war is the art of using the given means in combat.'[20] Obviously, the advance of weapon technology has allowed the conduct of war to capitalize on my theories of the importance of speed in the offense, 'offensive war requires above all a quick, irresistible decision'."[21] Clausewitz continues, "In addition, although the speaker was negligent not to quote me at the beginning of his lecture, I too, described cumulative warfare:

> Contrasting with this extreme view of the connection between successes in war, is another view, no less extreme; which holds that war consists of separate successes each unrelated to the next, as in a match consisting of several games. The earlier games have no effect upon the later. All that counts is the total score, and each separate result makes its contribution toward this total.[22]

I wrote this before either Captain Liddell Hart's or Admiral Wylie's birth."

"Now Carl," responds Liddell Hart, "you also wrote a lot about the concentration of force against a particular objective, whereas I correctly identified variants to your simplistic idea and foresaw the concept of a dispersed advance against various objectives, clearly the central premise of this strategy. In addition, the objective of accelerated cumulative warfare is obviously strategic dislocation, both in the physical and psychological sphere. By attacking throughout the battlefield, this spherical envelopment strategy uses the highest form of my indirect approach. By identifying and attacking accessible and 'high leverage' objectives in a sudden offense, we can physically dislocate the enemy's disposition, endanger his supplies and communications, and impress on the

commander his inability to counter any of our moves. The result: physical and psychological dislocation!"[23]

"Liddell Hart, we are aware that no one has a higher opinion of your theories than their originator. However, let me demonstrate how my concepts of concentration do apply to this envisioned future form of warfare," Clausewitz responds. "I state that *relative* superiority at the decisive point is required, and that the calculation of time and space appears to be the most important factor in achieving this relative superiority. Granted, as my battlefields did not include airlift, armored vehicles, cruise missiles, attack helicopters, satellites, and other envelopment technologies, I was referring to the speed and march of armies. The compression of time and battlespace through the use of technology, however, does not diminish the importance of the original principle. Specifically, this theory identifies the center of gravity as the enemy's ability to conduct a coordinated and sustained response to our offense. By attacking objectives to defeat this center—and obtaining relative superiority at each objective through a combination of tactical surprise and effective, simultaneous strikes—we may achieve a decisive victory. In this case, the relative superiority is our ability to engage objectives faster than our enemy can respond, and our accurate appraisal of the objectives to achieve his demoralization."[24]

"It won't work!" Jomini says. "You two are focusing only on the enemy's lines of communication. What of our own? How do you identify your lines of communication with forces dispersed *between* the enemy's combat elements and his bases? You have cut your own lines through employment of your forces! It is a self-defeating strategy!"

"Maybe I could help here," says Corbett. "To satisfy supply of our own forces in a spherical envelopment strategy, we must extend my thesis of the uniqueness of maritime lines of communications to the spheres of the airspace and electromagnetic dimension of the battlefield. As I have explained, maritime communications between enemies generally run parallel, whereas in land warfare they run opposite each other. However, with the advent of air resupply, and command and control via radio waves, only command of the air and

the electromagnetic spectrum need be obtained to secure viable supply and command routes to these dispersed forces. Better, if a large portion of these engaged forces are unmanned remote control weapons and scouts, a large resupply effort may not be required."[25]

"Yes, first command of air, sea, and information conduits must be assured before the commencement of an accelerated cumulative offense," replies Clausewitz. "Even this strategy has elements of sequential warfare, confirming my writings, 'so we will never find war in which the second concept (cumulative) is so prevalent that the first (sequential) can be disregarded altogether'."[26]

Clausewitz continues, "Does this, however, reveal a possible weakness to the strategy? It assumes we have a clear technological advantage over the enemy, so that we may dominate him in all dimensions and spectrums of the battlefield. It also implies our allies will be able to participate in our offense on almost equal technological terms. Relationships between ally and enemy have been fluid in history. An ally may become an enemy. Therefore these assumptions may be contradictory and imply a danger in losing information dominance. This, in turn, would mean the inability to obtain command of this spectrum and the loss of absolute targeting, locating, and attacking enemy forces—in short, a return to heavy 'fog' in the execution of the battle. Interestingly, in today's environment of rapid technological evolution, what I referred to as the preparation for battle—or maintaining technological advantages in critical weapon and information systems with trained, knowledgeable troops—may now be as critical as the strategy of the battle itself!"

"As usual," replies Liddell Hart, "you forget to explore alternative solutions. Sharing every information technology with allies is not necessary if you plan to confine their participation to limited roles. For example, they could provide the symmetric response of a defense against the enemy's front lines. Only with those allies we trust most would we share our technological advances. Finally, Carl, you must admit that the United States excels in technology. Information technology is a great strength of its armed forces. By applying a source of great strength against a

relative weakness of its potential enemies, the United States applies one principle of my theories on indirect approach."

Sun-Tzu then raises his wizened head. "It is written, 'It is the nature of the army to stress speed; to take advantage of the enemy's absence; to travel unanticipated roads; and to attack when they are not alert.'"[27]

"What does THAT mean?" interrupts Jomini.

Sun-Tzu patiently smiles, "It means two things. For the strategy of accelerated cumulative offense—a concept that appears to have no limit of boundary or time in selection of objectives in the battlefield—it means an advantage of an indirect and asymmetrical approach, *as long as the enemy fights in the symmetric style.* On the other hand, if he knows our strength, and is intent on violence, then he may select not to attack with armies, but conduct warfare against our economic information systems or employ international piracy, terrorism and guerrilla warfare campaigns to disrupt our international lines of communication. If the enemy chooses to develop capabilities to follow this nontraditional path, we must anticipate him and develop counters to his thrusts. Fortunately, many of the technologies required for our offensive strategy complement preparation for a defense against these measures. To summarize, we must know our enemy and prepare to defeat him."

"Well, that is the most I have ever heard him say at one time!" exclaims Jomini.

"The audience returns," states Corbett. "Let us, likewise, return to our seats."

The lecturer returns to the stage and displays another slide:

SUMMARY: CONCLUSIONS AND RISKS

HOT WASH UP: AFTER THE MASTERS' SEMINAR

To summarize, if *JV 2010* does produce the capability for an accelerated cumulative offensive strategy by leveraging a large advantage in information dominance and precision weapons, victory may be achieved by complete disorientation of the enemy. With such a dispersed and rapid offense, we could so minimize our own OODA loop that the enemy has no time to orient himself, let alone react to our actions. The envisioned technologies would allow us to capitalize on Clausewitz's speed for the offense and the advantage of reversed fronts, achieve Liddell Hart's dispersed objectives and indirect approach, and create the impression on the enemy commander that he is against Sun-Tzu's formless military deployment. Better yet, by threatening such an advanced technological response, or demonstrating our vastly superior information capabilities, we may deter the enemy from action and obtain Sun-Tzu's highest aim—victory without bloodshed.

While developing this grand vision, though, we must wrestle with at least four issues. The first is maintaining technological leadership. This implies knowing the status of potential enemies' developments toward their own revolution in military affairs, and being able to fund expensive technologies adequately for information and weapon systems ahead of them. The United States then must maintain intelligence efforts on potential adversaries, develop counterinformation warfare initiatives, and continue to evolve toward a coherent and seamless C^4I architecture. We will not be alone in these efforts. An information and technology "arms race" could easily develop.

Second, the level of integration of allies into the command and control web of our future battlefield must be considered. These decisions must be made during international training exercises prior to employment of forces for war. In turn, this could have an effect on the technological arms race as information is shared among allies and possibly obtained by potential adversaries.

Third, if we are successful in convincing potential adversaries of the futility of conventional armed conflict, they may seek alternative ways to modify our will through terrorism, nuclear black mail,

economic information disruption, and guerrilla warfare. Small units, trained to operate independently in the accelerated cumulative strategy, are also well prepared to engage many of these threats. We must, however, continue to develop intelligent methods to monitor and explore effective defenses against these dangers.

Finally, the current U.S. military force structure must evolve as information capabilities and affordable precision weapons become available. As stated earlier, the services have various initiatives that lay out general concepts to exploit these technologies as they are delivered to the operating forces. To maximize their potential, however, a coherent long-term program is required with a common horizon for all the services.

JV 2010 provides the template to develop operational concepts to allow the United States to dominate any future adversary across all levels of armed conflict. Fulfillment of these concepts, while ensuring flexible options by not overspecializing the services, will be the challenge for our policy makers during the next 20 years.

Thank-you for your attention.

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"An interesting proposal," evaluates Corbett as the audience departs to critique the strategy in their own seminars.

"Yes," Clausewitz agrees, "worthy of further consideration. I was surprised, however, that he failed during the concluding remarks to stress the philosophical challenge required of commanders to allow their subordinate units almost complete independence in the execution of operations."

"For their conventional forces," Liddell Hart responds, "it will undoubtedly be an adjustment. They will learn to focus on the emergent strategic goal of this complex offense vice the maneuver of troops. The American special operation forces and certain naval components have experience in this form of command strategy. I think the larger challenge, however, will be to identify strategic measures to evaluate the effectiveness of an accelerated cumulative strategy while the offense is in progress."

"Truly a consideration," interrupts Sun-Tzu. "It is time, however, for us to disperse to the various seminars and inspire the young men and women to explore these ideas. There is much more for the strategist to ponder!"

Jomini turns to Clausewitz and whispers, "Must he always have the final word?"

"Yes!" is Sun Tzu's reply.

NOTES

1. B. H. Liddell Hart, *Strategy*, 2d rev. ed. (New York: Penguin Books, 1991), 333.
2. J. C. Wylie, *Military Strategy: A General Theory of Power Control* (New Brunswick: Rutgers University Press, 1967; reprint, Annapolis: Naval Institute Press, 1976), 23.
3. Martin C. Libicki, *The Mesh and the Net*, 2d ed. (Washington: National Defense University Press, 1995), 32.
4. Sun-Tzu, *The Art of War*, trans. Ralph D. Sawyer (Boulder: Westview Press, 1994), 193.
5. John R. Boyd, "A Discourse on Winning and Losing," unpublished briefing, August 1987. The concept of the OODA loops was introduced by Colonel Boyd.
6. An emergent phenomenon from complex systems such as war can best be viewed in terms of complexity theory that emphasizes the view of the whole. Accelerated cumulative strategy depends on the emergent characteristic of a campaign that is executed in a decentralized manner. Lieutenant Colonel James Terry captured the idea of applied complexity theory in a Naval War College paper, "Balancing the Vision: Comparative Frictional Advantage."
7. Jeffrey Cooper, "DBK and Future Warfare," in *Dominant Battlespace Knowledge*, 2d ed, eds. Stuart E. Johnson and Martin C. Libicki (Washington: National Defense University Press, 1996), 95.
8. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1989), 624.
9. Boyd.
10. Harlan Ullman and James Wade, Jr., *Shock and Awe: Achieving Rapid Dominance* (Washington: National Defense University Press, 1996), 60.
11. *Joint Vision 2010* (Washington: Joint Chiefs of Staff, 1996).