

NAVAL WAR COLLEGE
Newport, R.I.

The Art of War: A Sun Tzu-ian Look at the Operational Functions

by

Robert W. DeStafney
LtCol, United States Marines

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: 

16 May 2000

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

20000913 150

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED

2. Security Classification Authority:

3. Declassification/Downgrading Schedule:

4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.

5. Name of Performing Organization:

JOINT MILITARY OPERATIONS DEPARTMENT

6. Office Symbol:

C

7. Address: NAVAL WAR COLLEGE

686 CUSHING ROAD

NEWPORT, RI 02841-1207

8. Title (Include Security Classification): The Art of War: A Sun Tzu-ian Look at the Operational Functions (U)

9. Personal Authors: LtCol Robert W. DeStafney, USMC

10. Type of Report: FINAL

11. Date of Report: 16 May 2000

12. Page Count: 25 | 12A Paper Advisor (if any):

13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.

14. Ten key words that relate to your paper:

Sun Tzu, Operational Art, Operational Functions, Joint Military Operations, Logistics, Fires, Leadership, Intelligence, Command and Control, Protection, Synchronization, Continuity

15. Abstract: The Art of War, the best known and most studied philosophy of war in history is regularly overlooked by students of the operational art. Developed by 5th century BC Chinese general Sun Wu, The Art of War finds great popularity in the ranks of junior officers and NCOs, dealing with war at the tactical level. Similarly, Sun's philosophy garners great attention among public officials and senior military officers, including many who never get past his opening statement: "War is a vital matter of the state; the province of life or death; the road to survival or ruin." Sun's immediate acknowledgement of the critical nature of war lead many to believe The Art of War is merely another recognition of the primacy of politics in warfare. Therefore, unfortunately, most planning or otherwise engaged in the operational level of war simply ignore a vital, invaluable source. While The Art of War is a one of the fundamental building blocks of the Naval War College Strategy and Policy Course, it gets precious little mention (if any) during the follow-on segment of study, Joint Military Operations. How unfortunate. Sun Tzu's philosophy has many direct applications to those planning and executing the military art at the operational level. Analysis of the Operational Functions (command and control, fires, intelligence, logistics, protection, and synchronization of operational functions) provides a useful framework from which to examine Sun's understanding of operational level warfare.

16. Distribution / Availability of Abstract:

Unclassified

Same As Rpt

DTIC Users

X

17. Abstract Security Classification: UNCLASSIFIED

18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT

19. Telephone: 841-6461

20. Office Symbol:

C

ABSTRACT

Students of the operational art regularly overlook the *Art of War*, the best-known and most studied philosophy of war in history. Developed by 5th century BC Chinese general Sun Wu, *The Art of War* finds great popularity in the ranks of junior officers and NCOs, dealing with war at the tactical level. Similarly, Sun's philosophy garners great attention among politicians and very senior military officers, including many who never get past his opening statement: "War is a vital matter of the state; the province of life or death; the road to survival or ruin." Sun's immediate acknowledgement of the critical nature of war lead many to believe *The Art of War* is merely another recognition of the primacy of politics in warfare. Therefore, unfortunately, most of those planning or otherwise engaged in the operational level of war simply ignore a vital, invaluable source. While *The Art of War* is a one of the fundamental building blocks of the Naval War College Strategy and Policy Course, it gets precious little mention (if any) during the follow-on segment of study, Joint Military Operations.

How unfortunate. Sun Tzu's philosophy has many direct applications to those planning and executing the military art at the operational level. Analysis of the Operational Functions (command and control, fires, intelligence, logistics, protection, and synchronization of operational functions) provides a useful framework from which to examine Sun's understanding of operational level warfare.

This paper relies heavily on three separate translations of Sun Tzu's work. They include *Sun Tzu: The Art of War*, Ralph D. Sawyer, translator; (Boulder, Colorado: Westview Press, 1994); *Sun Tzu: The Art of War*, Samuel B. Griffith, translator; (London: Oxford University Press, 1963); and *Sun Tzu: The Art of Warfare*, Roger Ames, translator; (New York: Ballantine Books, 1993). I will quote from each using *italic* script, and for simplicity's sake, will reference

the translation immediately after the quotation, in the body of the text. After the quote, I will cite the chapter from *The Art of War*, followed by the name of the translator and page number, enclosed in parentheses. For example, a simple reference to Sun would be:

Command is a matter of wisdom, integrity, humanity, courage, and discipline.
The Art of War, Chapter 1 (Ames: 103)

When referencing material included in the translators' introductions or notes, I will utilize the standard footnote format.

The Art of War: A Sun Tzu-ian Look at the Operational Functions

On June 30th, 2000, 245 second lieutenants will graduate from The Basic School (TBS), the entry-level professional military education (PME) institute for newly-commissioned Marine officers. The officers of Basic Class 2-2000 will have completed twenty-five weeks of intensive training, with heavy emphasis on squad and platoon level tactics, physical training, land navigation, Marine Corps customs and courtesies, military leadership, and professional ethics. TBS, a resident school of the Marine Corps University located in Quantico, Virginia, cycles approximately 1300 new officers through its course of instruction annually. Its mission is "to educate...and prepare [them] for duty as company grade officers in the Operating Forces, with particular emphasis on the duties, responsibilities and Warfighting Skills required of a rifle platoon commander."¹

In twenty years a small percentage of those Marines, still on active duty as lieutenant colonels or colonels will get an additional PME opportunity at the Naval War College (NWC) in Newport, Rhode Island. Barring radical change to the College of Naval Warfare curriculum, one-third of their academic year will be committed to the NWC Strategy and Policy (S&P) course. Designed to teach mid-grade military officers to think strategically, this course will test their ability to examine political and military alternatives through the use of theories of warfare, historical case studies, and the fundamentals of political science and international relations. .

Obviously, Marines at the Naval War College (and at other U.S. senior service schools) study a form of warfare vastly different from that they considered at TBS. However, whether preparing to utilize the tactics, techniques, and procedures commonly used by company grade officers assigned to Marine operating forces or to develop and execute national military strategy in a service headquarters or Joint Staff assignment, students from the two schools will find common ground. In each, the oldest known and most frequently read theory of warfare gets top billing as fitting and relevant to the level of armed conflict studied there.

For Marine second lieutenants, Sun Tzu's *The Art of War* is an appropriate introduction to military philosophy and theory. It is brief—thirteen short essays easily read in one sitting. It appeals directly to junior officers immersed daily in the tactical level of warfare that will dominate their first 20 years in the Corps. Finally, *The Art of War* is cool. Young officers, filled with dreams of working in the dangerous world of special operations and unconventional (*ch'i*) warfare, are certain *The Art of War* was written for them, and that Sun's tactics are as applicable today as they were more than two millennia ago. Not surprisingly, Warfighting—the doctrinal publication on which Marine lieutenants cut their teeth—has a very strong Sun Tzu-ian flavor.

Strategists to-be leave Newport with an equally strong affinity for Master Sun. *The Art of War* is introduced early in the S&P course as one of the primary conceptual frameworks for the study of policy and strategy. Even professor Michael Handel, who clearly favors Prussian general and military theorist Carl Von Clausewitz, author of *On War*, acknowledges Sun's contribution to strategic theory. Referring to *The Art of War* as one of "two enduring classical texts on war" Handel suggests that Sun is applicable to and "concerned with the conduct of war on the highest strategic level [only]."²

Strategy professor Andrew Wilson, also a member of the S&P faculty at Newport (and an accomplished student and teacher of ancient Chinese history) encourages a similar strategic emphasis. In an introductory lecture intended to present Sun Tzu's philosophy to NWC students, Wilson lauds Sun's "strategic significance" and encourages students to consider *The Art of War's* "uniquely Asian perspective on strategy." Finally, Professor Wilson reminds his students that "it would be foolish for any officer or strategic planner in this country to ignore Sun Tzu's *The Art of War* in the contemporary world."³

Taking exception with the NWC's emphasis to students and planners of strategic warfare is not the purpose of this paper; nor do I intend to question the judgement of those who consider Sun at the tactical level only. Sun himself would most certainly agree that his theory lends itself perfectly to

war at the very highest levels. Readers are made immediately aware of this strategic element, as *The Art of War* begins:

War is a vital matter of state. It is the field on which life or death is determined and the road that leads to either survival or ruin, and must be examined with the greatest care.
The Art of War, Chapter One (Ames: 103)

And tacticians are quite correct in their assumption that their ancient Chinese counterparts used many elements of Sun's theory, which are still applicable in the twenty-first century. Sun is required reading for Marine junior officers and non-commissioned officers for all the right reasons.

It seems that in our military schoolhouses, however, we recognize the significance of *The Art of War* only at those levels that lie in the extreme boundaries of the doctrinal warfare spectrum. Teachers, students, planners, and practitioners (including commanders) of a third level—the operational level of war—are neglecting an invaluable source of military theory and ageless unconventional wisdom when they overlook Sun's philosophy. While continuing to utilize the *Art of War* to examine the strategic level of war, the Naval War College would be altogether correct in expanding its study to the operational level as well. This paper will attempt to demonstrate an appropriate application of Sun's philosophy by substantiating his understanding of what we now call the operational level of war. In particular, I will consider his appreciation of the operational functions and their influence on war.

The Levels of War

Upon completing the Strategy and Policy course, NWC students quickly transition to a full trimester of instruction on Joint Military Operations (JMO). Intending to enhance "the capability of officers to think and to make decisions at the theater-strategic and operational levels of war" the JMO faculty attempts to build on the understanding of strategic fundamentals taught in S&P. During the twelve-week course, JMO students are exposed to the operational art, joint doctrine and service capabilities, and to the application of those capabilities on the modern battlefield. Like the tactical level of war most familiar to field grade officers in all U.S. services, and like the not-so-familiar

strategic level taught during the S&P course, there are no clear boundaries that define the operational level of war, or that clearly distinguish it from the other levels.⁴

Joint Pub 3-0, Doctrine for Joint Operations, offers perhaps the clearest definitions of the difficult-to-characterize levels of war. The strategic level is that “at which a nation...determines national or multinational strategic security objectives...and develops and uses national resources [including economic, political, and cultural/social resources] to accomplish national objectives.”⁵

Certainly, the Sun Tzu-ian logic appeals to those who ponder or execute war at this level. Strategic war is indeed a “vital matter of state,” translated as the “life or death,” or “survival or ruin [or extinction]” of a nation. Readers quickly realize that long before Von Clausewitz wrote *On War*, Sun understood the primacy of politics, and the critical role policy played in defining national interests and objectives. And given that Sun’s original intent was to sell *The Art of War* as a guaranteed-to-win program to rulers of warring Chinese states, his strategic emphasis was the proper one. His examination of the strategic level of war included everything from the financial cost of national mobilization to the utilization of strategic level intelligence collection assets.⁶

Unfortunately, our fixation on the strategic elements of Sun’s theory, particularly the portions that satisfy our fascination with things oriental (*Know your enemy, know yourself;*” and “*To win without fighting is the acme of skill,*” et al.) often keeps us from the truth about *The Art of War*. At first blush, Sun’s theory suggests a bloodless, painless path to victory. Further examination, however, reveals that this book, this philosophy, is about a nasty and brutal form of war, directly applicable to the operational level.

Prior to the Chinese Warring States period, the generally-accepted time of Sun Tzu’s existence, war was a “gentlemanly pastime,” fought by small armies—normally 5,000 to 10,000 soldiers—raised by the aristocratic ruling classes in hundreds of city states that occupied what is now China.⁷ Wars were settled in primitive fashion during single confrontations rarely lasting longer than a day. Ill-defined “national interests” required little more; poor leadership, equipment, and

training allowed for little else. These Spring and Autumn period encounters were disjointed tactical affairs, normally fought over intrastate matters and seldom connected to other engagements in purpose or intent.⁸

Joint doctrine defines tactics as “the employment of units in combat. It includes the ordered arrangement and maneuver of units to each other and/or to the enemy in order to use their full potential.”⁹ Far from dominating state policy or defining a war’s political goals, tactical engagements, like those fought in the Chinese Spring and Autumn period, involve battles and other military actions focused exclusively on military objectives—normally key terrain or enemy forces—with little consideration of other elements of national power. At the tactical level, military conflict is “planned and executed to accomplish military objectives assigned to tactical units or task forces. Tactics is battlefield problem solving—usually rapid and dynamic in nature.”¹⁰

Just prior to the Warring States period, however, most Chinese city-states had been eliminated, leaving behind a small number of dominant, wealthy, and well-populated surviving states. Clan rulers, whose goal was to consolidate “all under heaven” into a single political entity—the unification of China—benefited from a larger population base, technological advancement, and intellectual and philosophical development.¹¹

These changes brought transformation not only to the social order in China, but to the state of warfare as well. No longer could rulers afford to plan for and fight small-scale, tactical-level battles only. For rulers bent on state survival, “maintenance and enlargement of their territories [through combat] were the great preoccupation.”¹²

Higher stakes meant larger armies and the emergence of a new professional military leader class. According to Chinese historian Mark Lewis, the Warring States period saw the emergence of a new “form of commander, a specialist who held office through mastery of military techniques.”¹³ This group of organizational and technical specialists, (which included Sun Wu, now known as Sun

Tzu (Master Sun)) busied themselves through the development of new operational warfighting concepts designed to achieve the strategic objectives of the state.

Sun and his peers dealt in military operations that involved sizeable joint (land and naval) forces, in a large theater of operations. According to Lewis, a prerequisite for these new commanders was “the ability of the general...to work out the balances, tendencies, or patterns that lay hidden under the seeming chaos of a campaign.”¹⁴

In the 21st century U.S. combatant commands and joint task forces “perform subordinate campaigns and major operations and plan, conduct, and sustain to accomplish the strategic objectives of the unified commander or higher military authority.”¹⁵ The operational level of war provides a direct link between forces fighting tactical actions for military objectives, and the national political and military leaders who determine strategic goals. This is the essence of *The Art of War*. Conflict during China’s Warring States period involved the same elements of combat—joint forces operating in a theater of war to achieve established strategic (state) goals.¹⁶

The Operational Functions

The victorious army first realizes the conditions for victory, and then seeks to engage in battle. The vanquished army fights first, and then seeks victory. One who excels at employing the military cultivates the Tao and preserves the laws; therefore, he is able to be the regulator of victory or defeat.*

The Art of War, Chapter 4 (Sawyer: 184)

Operational commanders place great emphasis on the art of their profession, defined in Joint Pub 3-0 as “the use of military forces to achieve strategic goals through the design, organization, integration, and conduct of strategies, campaigns, major operations and battles.”¹⁷ Commanders who successfully plan and practice the operational art commit joint forces in a highly synchronized, closely coordinated effort against an adversary, in situations that are anything but static. The

* In Chapter One, Sun teaches that war must be structured according to five factors, including “*fu*.” Sawyer translates this character as “laws [for military organization and discipline].” Ames’ translation is “regulation.” To Griffith, “*fu*” is “doctrine,” closest to what I believe is intended. While Sun’s theory is called an art, he clearly understood the practical side, or science (doctrine) of conflict as well.

incredibly complex nature of modern warfare, with land, naval, air, space, and information warfare components, requires the use of some form or methodology to bring order to a seemingly chaotic environment.

Now the resources of those skilled in the use of...forces are as infinite as the heavens and earth; as inexhaustible as the flow of the great rivers... The musical notes are only five in number but their melodies are so numerous that one cannot hear them all. The primary colors are only five in number but their combinations are so infinite that one cannot visualize them all. The flavors are only five in number but their blends are so various that one cannot taste them all.

The Art of War, Chapter 5 (Griffiths: 91-92)

Defining and analyzing the operational functions from a theater perspective is a tool to help operational commanders plan, prepare, conduct, and sustain their forces in theater. Considered in a vacuum or individually, the functions provide little assistance. But carefully examined in combination with the operational factors of time, space, and forces, the operational functions will clarify issues of force synchronization and sequencing, which are vitally important to an operational commander and staff.

Currently, no joint doctrine exists to define an agreed-upon list of operational functions. An examination of Sun's appreciation of those accepted by most—**operational command and control, operational intelligence, operational fires, operational maneuver, operational protection, and operational logistics**—will bring focus to this list of closely related and complex activities.

Operational Command and Control (C²)

In general, commanding a large number is like commanding a few... Fighting with a large number is like fighting with a few. It is a question of configuration and designation.

The Art of War, Chapter 5 (Sawyer: 187)

Command and control is the most intricate of the operational functions. JMO students preparing a Commander's Estimate of the Situation (CES) for the first time learn first hand the complexity of the factors influencing a commander's decision. Sun's most-frequently repeated advice applies directly. *Know the enemy and know yourself* is much more than "fortune-cookie"

philosophy, dealing only with the cultural nuances of an enemy. Rather, it is Sun's insistence that commanders (and their staffs) initiate sound C², including accurate friendly and enemy force estimates, by repairing to the "ancestral temple" to determine which army will find victory. (Chapter 1, Sawyer: 168) Sun is demanding a detailed quantitative analysis—a "stubby pencil drill"—of the friendly and enemy situation.

The fact that he communicated a warfighting "doctrine" is a clear indication that Sun Tzu recognized the critical nature of C². His guidance regarding "configuration and designation" suggests he encountered many of the issues facing today's commanders, including (but not limited to) task organization, continuity and momentum, and force synchronization, which all demand comprehensive C² capability.

Significant differences in the joint and service community definitions of command and control make selecting the "right" one difficult. Joint Pub 3-0 defines C² as "the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of a mission."¹⁸ NWC professor Milan Vego gives an indication of the expectations of effective C², when he describes it as the "means by which [a] commander synchronizes joint force activities in time, space, and purpose in order to achieve service and functional component unity of effort."¹⁹ The Marines define command and control as a concept rather than a function, calling it "the means by which a commander recognizes what needs to be done and sees to it that appropriate actions are taken."²⁰

In the more than 2,000 years since *The Art of War* was written, the tools for establishing and maintaining C² have radically changed. Many C² fundamentals, however, remain. Among the most important are unity of effort, speed in planning and executing operations, and effective communications.

Sun's insistence on unity of effort—*commanding a large number is like commanding a few*—signaled his comprehension of this critical fundamental of C². Twenty-first century operational

commanders, who frequently double as international military coalition commanders, must coordinate and integrate the capabilities of joint forces operating on land; in the air and in space; on, over, and under the world's oceans; and in the information warfare arena. When coalition partners are involved, cultural and political sensitivities complicate unity of effort even further. Whether maintained through formal command relationship or cooperative effort, unity of effort is a must for success at the operational level of war.

War is such that the supreme consideration is speed. This is to take advantage of what is beyond the reach of the enemy. (Chapter 11, Ames: 157) Sun's emphasis on speed went well beyond movement and maneuver on the battlefield. His mastery of C² was based on decisive planning and action at a rate not achievable by the enemy. Setting the tempo, maintaining continuity, controlling and synchronizing forces—all through C² dominance—were part of Sun's program, and were made possible by "*one who excels at employing men in warfare [as] ...rolling round boulders down a thousand-fathom mountain.*" (Chapter 5, Sawyer: 188)

Sun's communications tools included gongs, banners, drums, flags, and torches. Modern communications capabilities are means to the same ends: commanders must maintain the means of coordinating the efforts of their widely dispersed forces in a hostile environment. In the 21st century, just as in 5th century BC, these means must be reliable, simple, secure, and flexible.

We should not blindly accept Sun's thoughts on this function, however. Joint force commanders (JFC), whose authority is defined in the Unified Action Armed Forces (UNAAF), rely on a "centralized direction, decentralized execution" concept of C². Initiative at the lowest levels of a combatant command or joint task force is encouraged and often required, and demands all ranks understand not only the task assigned their individual unit involved in a tactical action, but also the desired end state of a particular battle, engagement, operation or campaign, normally expressed as the commander's intent.

Not so for Sun's troops, who were purposely kept in the dark regarding plans and intent by his "*blinker[ing] the ears and eyes of his officers and men...to keep [them] ignorant...like a flock of sheep.*" (Chapter 11, Ames: 159) For Sun, centralized planning and execution alone ensured security, and his methodology was reliant on the genius of the commander only.

Proponents of the emerging warfighting concept, Network-Centric Warfare (NCW), should take exception with this element of *The Art of War*. NCW involves an agile, flexible system of "sensors and shooters" designed to give joint forces information superiority in a theater. Rather than massing forces or even fires, NCW, in theory, will provide massing of effects through vastly improved speed of C² and force synchronization "from the bottom up." Like the Marine Corps' doctrinal concept, maneuver warfare, NCW will rely on a highly-trained, well-educated, and fully integrated and coordinated joint force that adequately understands the commander's intent, and has the authority to exercise initiative when a situation requires immediate action.²¹

Operational Intelligence

Therefore, the business of waging war lies in carefully studying the designs of the enemy. Focus your strength on the enemy and you can slay his commander at a thousand li.

The Art of War, Chapter 11 (Ames: 161-2)

Operational-level intelligence officers continually seek methods to "develop and continuously refine their ability to think like the adversary."²² As he peddled his theory to a number of state rulers, all looking for a winning general, Sun Tzu had a distinct and important advantage over modern operational commanders. His potential adversaries, the warring states, were all Chinese. Intuitive knowledge of the enemy's language, culture, history, and warfighting methodology are capabilities intelligence staffs would greatly appreciate.

Studying the designs of the enemy requires a cooperative effort between national (strategic), theater (operational), and subordinate (tactical) intelligence-gathering activities. Joint Pub 2-0 defines Operational Intelligence as that "required for planning and conducting campaigns and major

operations to accomplish strategic objectives within theaters or areas of operations (AO).”²³

Therefore, the JFC must establish clear priorities in order to focus the efforts of those targeting the enemy for intelligence purposes. More than any other operational function, intelligence affects the commander’s C² capacity, for his ability to plan and execute operations will be based largely on timely and accurate analyses of enemy capabilities, and anticipation and observation of enemy action.

Master Sun’s penchant for spies is well known. An entire chapter of *The Art of War* is devoted to this subject, and it would be difficult to overstate his emphasis on developing and acquiring human intelligence assets. His spies not only gathered information on the enemy, but also on the terrain. An appreciation of the operational factors of time, space, and forces is evident in his commentary on the configurations of terrain, and its impact on the enemy’s capability to resist.

Conformation of the ground is of the greatest assistance in battle. Therefore, to estimate the enemy situation and to calculate distances and the degree of difficulty of the terrain so as to control victory are virtues of the superior general. He who fights with full knowledge of these factors is certain to win; he who does not will surely be defeated.

The Art of War, Chapter 10 (Griffiths, 127-128)

Intelligence officers charged with completing a comprehensive battlespace review are given sound advice in Chapter 11. Though Sun’s analysis is limited to *terra firma*, we can determine the level of detail he utilized in his personal Intelligence Preparation of the Battlefield (IPB) process.²⁴

Forces, battlespace, and weapons lethality have all increased significantly in the last half-century. An intelligence failure at the operational level of war could result in the loss of thousands of friendly lives, and ultimately, to failure on the battlefield. Sun’s reminder, therefore, that “*the business of waging war lies in carefully studying the designs of the enemy,*” is particularly fitting. (Chapter 11, Ames: 161)

Operational Fires

There are five kinds of incendiary attack: The first is called setting fire to personnel; the second, to stores; the third, to transport vehicles and equipment; the fourth, to munitions; the fifth, to supply installations.

The Art of War, Chapter 12 (Ames: 165)

Sun Tzu developed *The Art of War* during a period of technological advancement, which enabled generals to promote warfighting concepts involving advanced weaponry. Among the weapons that emerged during this period were those that allowed the application of “combined arms,” and required the evolution of tactics used by large formations. These included an advanced crossbow, which fired iron-tipped arrows at long-range targets, and the iron lance, also for long-range use. To protect the archers and lancers, their squad mates were armed with swords, knives, and ax-like weapons, designed for close-quarters fighting.²⁵

Nevertheless, it is extremely difficult, on the surface, to apply Sun Tzu’s theory of warfare to the current application of operational fires. This paper is not the place to address the host of land-, sea-, air-, and space-based weapons platforms available to a joint force commander. There is little point in comparing the range, lethality, accuracy, and quantity of 21st century weapons to those available in 5th century, BC China. It is clear, however, that Sun understood the importance of targeting operational objectives over 2,000 years ago.

Operational fires are characterized by their impact on a major operation or campaign. What distinguishes operational from tactical fires is not the delivery platform, the type of unit delivering the fires, or the size of the objective. More important are the purpose of the fires, their duration, and the level of command that plans and controls them. Planned to influence the enemy to react in a way that creates an operational advantage for friendly forces, and to accomplish operational objectives in support of a major operation, these fires can be used in several ways.²⁶

Sun’s use of incendiary weapons against storage facilities, armories, and transport vehicles reflect his willingness to target not only units in direct (tactical) contact with his own, but also the

means of sustainment required to maintain an enemy force engaged in large operations and campaigns.

Disrupting, delaying, and deterring enemy forces can be achieved with accurate and timely operational fires applied against targets in or outside the AO. Destroying forces is far less likely, but fires are an extremely effective means of obtaining useful information and intelligence about the enemy. Sun urged generals to “*analyze the enemy’s battle plan to understand its merits and its weaknesses; provoke him to find out the pattern of his movements; make him show himself (hsing) to discover the viability of his battle position.*” (Chapter 6, Ames: 126) All these purposes can be achieved through operational fires.

Operational Maneuver

Generally he who first occupies the field of battle to await the enemy will be rested; he who comes later and hastens into battle will be weary. Thus the expert in battle moves the enemy, and is not moved by him.

The Art of War, Chapter 6 (Ames: 123)

Of the six operational functions addressed herein, maneuver is perhaps the most contentious. Because maneuver is listed also as one of the better-known “Principles of War,” many believe its inclusion in the operational functions is confusing, redundant, and unnecessary. Additionally, considerable disagreement exists about the meaning of the word. Traditionalists regard maneuver as movement over the ground, in the air, or on and under the sea. Others prefer a broader, more expansive definition of maneuver, and use this definition to describe a warfighting concept based very closely on *The Art of War*.

Since the early 1980s, the Marine Corps has promoted maneuver warfare as its principal warfighting philosophy. More recently (1994) the Navy followed suit, introducing the term in Naval Warfare (NDP 1), its capstone doctrinal publication marketing the theory in a similar fashion. In practice, maneuver warfare is far less a function than it is a concept—some would say an attitude—that follows closely many of the ideas promoted by Sun Tzu in *The Art of War*. While not completely

ignoring the traditional, spatial sense of the word, MCDP 1 notes that maneuver warfare encourages “taking action to generate and exploit some kind of advantage over the enemy as a means of accomplishing our objectives as effectively as possible.”²⁷

This action might be generated in space only, but it is unlikely that spatial maneuver alone would create the type of “turbulent and rapidly deteriorating situation” Marines hope to produce on the battlefield. It is far more likely that this action will exploit C² dominance to maneuver in time and in forces (through agile, flexible task organizations), in order to create a fluid, chaotic operating tempo that the enemy cannot match.²⁸

Similarly, Sun encourages his pupils to exhaust the enemy by striking at critical weaknesses and avoiding strong points:

If the enemy is rested you can tire him; if he is well fed you can make him hungry; if he is at rest you can move him. Go forth to positions to which he must race. Race forth to where he does not expect it... strike positions that are undefended... secure positions the enemy will not attack.

The Art of War, Chapter 6 (Ames, 191)

Maneuver warfare does not reject traditional maneuver altogether. Indeed, the theory requires movement, mobility, and a scheme of maneuver supported by operational fires, in order to fully develop a concept of operations. However, the conventional forms of operational maneuver—the penetration, the envelopment, and the encirclement—cannot be considered alone, without accounting for the factors of time, space, and forces. In fact, Sun Tzu would advise against consideration of these fundamentals, and insist we reflect on that which has not been considered in the past.

If I am able to determine the enemy's dispositions while at the same time I conceal my own then I can concentrate and he must divide. And if I can concentrate while he divides, I can use my entire strength to attack a fraction of his... Now an army may be likened to water, for just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness. And as water has no constant form, there are in war no constant conditions.

The Art of War, Chapter 6 (Griffiths: 98-101)

Operational Protection

Thus the highest realization of warfare is to attack the enemy's plans; next is to attack their alliances; next to attack their army; and the lowest is to attack their fortified cities... Thus one who excels at employing the military subjugates other people's armies without engaging in battle, captures other people's fortified cities without attacking them, and destroys other people's states without prolonged fighting. He must fight under Heaven with the paramount aim of 'preservation.' Thus his weapons will not become dull, and the gains can be preserved.

Chapter 3 (Sawyer: 177)

Although [you are] capable, display incapacity to them. When committed to employing your forces, feign inactivity. When [your objective] is nearby, make it appear as if distant; when far away, create the illusion of being nearby.

Display profits to entice them. Create disorder [in their forces] and take them. If they are substantial, prepare for them; if they are strong, avoid them.

Chapter 1 (Sawyer: 168)

The experts in defence conceal themselves as under the ninefold earth; those skilled in attack move as from above the ninefold heavens. Thus they are capable both of protecting themselves and of gaining a complete victory.

Chapter 4 (Griffiths: 85)

Do not approach high mountains; do not confront those who have hills behind them. Do not pursue feigned retreats. Do not attack animated troops. Do not swallow an army acting as bait. Do not press an exhausted invader. These are the strategies for employing the military.

Chapter 7 (Sawyer: 199)

The art of using troops is this: do not depend on the enemy not coming; depend rather on being ready for him. Do not depend on the enemy not attacking; depend rather on having a position that cannot be attacked.

Chapter 8 (Ames: 136)

For Marines, it starts at TBS. Second lieutenants learn immediately that with command comes authority and with authority comes responsibility. And the most sacred, the most inviolable of all responsibilities is the care and preservation of junior Marines. For many new platoon commanders straight out of Quantico, the burden is overwhelming. The weight includes everything from demanding hygiene in the field to safety at marksmanship ranges to alcohol abuse awareness to providing meaningful and challenging training to... If the lieutenant takes his platoon to war, the

weight increases 100 fold. Protection in combat is the sum of all measures required to conserve “the fighting potential of a force so that commanders can apply it at the decisive time and place.”²⁹

Joint force commanders suffer the same concerns as the platoon commander, on a much larger scale. Typically, JFCs and their forces present an extremely large target, widely dispersed over a large geographic theater, including land, naval, and air forces. The JFC is responsible for establishing theater-wide operational protection standards and priorities. His subordinate commanders and staff are charged with maintaining the protection program at their respective levels.

Like the other operational functions, protection does not stand alone. The commander must consider the impact of offensive and defensive maneuver on vulnerable lines of communication and major supply routes. Established intelligence priorities for indication and warning may improve or degrade warning times, increase the demand for fires on selected targets, or place greater or lesser demand on the commander’s C² infrastructure.

Operational protection is all about the preservation of fighting power so that, when required, it may strike a fatal blow to enemy forces. Practicing protection at the operational level takes many forms. Sun Tzu’s comments indicate an understanding and appreciation of the importance of protection, as they suggest the use of deception and operational security, realistic training, terrain appreciation, cover and concealment, competent risk management, sound planning and effective command and control.

Operational Logistics

Accordingly, if the army does not have baggage and heavy equipment it will be lost; if it does not have provisions it will be lost; if it does not have stores it will be lost.
The Art of War, Chapter 7 (Sawyer: 197)

More than any other function, logistics defines the boundaries of the possible at the operational level of war. Most military students at NWC are at least familiar with their service’s own tactical-level logistics capabilities. In the Army and Marine Corps, this lowest level of logistics is called combat service support (CSS), and it deals with the direct application of logistics support (in

the Marines: supply, transportation, maintenance, general engineering, health services, and other services) to forces engaged in the tactical level of war.

At the other extreme of the logistics system lies strategic logistics, involving our national capability to raise, move, and sustain forces engaged in military operations worldwide. At the strategic level, priorities include research, development, production, and acquisition of major weapons systems and principal end items; strategic sea and airlift; and prepositioning programs. Actively involved in strategic level logistics are the Defense Logistics Agency, Defense Contract Management Agency, U.S. Transportation Command, and the service's headquarters and material commands.

Linking strategic level logistics to the tactical is operational logistics, which addresses "coordinating and providing intratheater logistics resources to operating forces, and primarily concerns the Unified combatant commanders and the Service component commanders."³⁰ Coordinating the logistics effort in a theater of operations, the operational level logistician controls the flow of resources brought into theater by strategic level carriers, based on the commander's intent and logistics priorities. Like their intelligence counterparts, logistics officers must be able to conduct their own analysis of the battlespace, and develop a concept of logistics, accounting for the operational factors of time, space, and forces.

Terrain that both armies can approach freely is called accessible. On accessible terrain, the army that enters the battle having been first to occupy high ground on the sunny side and to establish convenient supply lines, fights with the advantage.

The Art of War, Chapter 10 (Ames: 147)

Particularly in undeveloped theaters or AOs, expansion of the logistics infrastructure will be required. The JFC might consider building intermediate and forward supporting bases, developing an effective commercial transportation network, and establishing intratheater lines of communication. Infrastructure improvement might also include Host Nation Support, and the hiring of native contract employees.

An effective operational logistics system will possess the qualities desired in all logistics operations: simplicity, dependability, durability, flexibility, speed, and responsiveness. In order to provide those qualities, the commander's concept of logistics must be closely integrated with the concept of the operation, and must fully support the commander's intent. There is little to suggest that Sun Tzu was a logistician; however, he did display a critical understanding of this important operational function, identifying it as a combat enabler.

Conclusion

If a general follows my [methods for] estimation and you employ him, he will certainly be victorious and should be retained. If a general does not follow my [methods for] estimation and you employ him, he will certainly be defeated, so dismiss him.

The Art of War, Chapter 1 (Sawyer: 168)

The Art of War has long been suggested as a metaphorical blueprint for everything from Wall Street corporate raiding to excellence in professional sports. Truth is, however, *The Art of War* is simply a book about war—a very dirty, utilitarian, opportunistic type of war fought over two millennia ago. Sun Tzu's theory is designed to achieve victory at the lowest possible cost, in the shortest possible time, with as little loss of life, land, and treasure as possible. Sun got it right. War is the “greatest affair of the state, the basis of life and death.” But we are wasting an invaluable source of knowledge when we neglect Sun while exploring the operational level of war.

Though the “operational functions” are never directly addressed in *The Art of War*, Sun knew their importance and described how to utilize them to the very best advantage. The operational functions do not provide a cookie-cutter solution to operational issues. They provide no simple answers to the terribly difficult challenge of optimizing the performance of a joint force in the operational arena. Considering the functions, however, does provide a joint force commander and his staff a useful tool with which they might improve the combined, synchronized efforts of all force elements.

Endnotes

- ¹ The Basic School Homepage, < <http://www.mcu.usmc.mil/TbsNew/home.htm>> (17 April 2000).
- ² Michael Handel, *Masters of War: Classical Strategic Thought* (London: Frank Cass, 1996), 33.
- ³ Andrew R. Wilson, "Sunzi Bingfa/ Sun Tzu's The Art of War," Lecture, U.S. Naval War College, Newport RI: 22 November 1999.
- ⁴ US Naval War College, Joint Military Operations Department, Joint Military Operations Syllabus, 2000 (Newport, 2000), vi.
- ⁵ Joint Chiefs of Staff, Doctrine for Joint Operations (Joint Pub 3-0) (Washington, DC: 1 February 1995), II-2.
- ⁶ Sun describes the minimum cost of simply entering the warfare arena during the Warring States period. For a ruler to even consider an act of war, Sun Tzu advises prospective clients that they must possess "one thousand four-horse chariots, one thousand... leather-covered wagons, and one hundred thousand armor-clad troops...and with expenses at home and on the field...[such as] the maintenance of chariots and armor, only when you have in hand one thousand pieces of gold for each day can the hundred thousand troops be mobilized." Chapter 2, (Ames, 107). Sun's thoughts on the use of spies and agents, including those who work directly for the ruler (strategic level) are found in any of the three translations, Chapter 13.
- ⁷ Roger Ames, comment in "Sun Tzu's Art of War," video produced and televised by The Discovery Channel (1994).
- ⁸ Ralph D. Sawyer, Sun Tzu: The Art of War (Boulder, CO: Westview Press, 1994), 33-37.
- ⁹ Joint Pub 3-0, II-3.
- ¹⁰ Department of the Army, Operations (FM 100-5) (Washington, DC: June 14, 1993), 6-3.
- ¹¹ Colin A. Ronan, editor, The Shorter Science and Civilization in China: An abridgement of Joseph Needham's original text (Volume 1), (Cambridge: Cambridge University Press: 1978), 30.
- ¹² John Meskill, editor, Introduction to Chinese Civilization, (New York: Columbia University Press, 1973), 16.
- ¹³ Mark Edward Lewis, Sanctioned Violence in Early China, (Albany, New York: State University of New York Press, 1990), 11.
- ¹⁴ *Ibid.*, 134.
- ¹⁵ FM 100-5, 6-2.
- ¹⁶ Sawyer puts the issue of "jointness" to rest in his introduction. He describes in detail the geography of the three principal warring states, Ch'u, Wu, and Yueh. Wu, Sun's home state, had a lengthy coastline and a considerable naval capability. All three states could be transited via major rivers, including the Yangtze and the Han. Joint forces—army and navy—were required to successfully attack neighboring states. (Sawyer, 85-95).
- ¹⁷ Joint Pub 3-0, II-2.
- ¹⁸ *Ibid.*, II-15.

¹⁹ Milan Vego, On Operational Art (4th Draft), (Newport, RI: US Naval War College, 1999), 269.

²⁰ Department of the Navy, Command and Control (MCDP 6), (Washington, DC: 4 October 1996), 37.

²¹ Arthur K. Cebrowski and John J. Garstka, "Network-Centric Warfare: It's Origin and Future," U.S. Naval Institute Proceedings, January 1998, 28-35.

²² Joint Chiefs of Staff, Joint Doctrine for Intelligence Support to Operations (Joint Pub 2-0), (Washington, DC: 5 May 1995), IV-1.

²³ *Ibid.*, II-1.

²⁴ IPB is defined as "an analytical methodology employed to reduce uncertainties concerning the enemy, environment, and terrain for all types of operations." Joint Pub 2-0, GL-8.

²⁵ Lewis, 108-110.

²⁶ Vego, 289-308.

²⁷ Department of the Navy, Warfighting (MCDP 1), (Washington, DC: 20 June 1997), 72-76. See also Naval Warfare (NDP 1), (Washington, DC: 28 March 1994), 31-33.

²⁸ *Ibid.*, 72-73.

²⁹ FM 100-5, 2- 10.

³⁰ Department of the Navy, Naval Logistics (NDP 4), (Washington, DC: 10 January 1995), 7.

Bibliography

- Alberts, David S., John J. Garstka, and Frederick P. Stein. Network Centric Warfare: Developing and Leveraging Information Superiority, 2d Edition. Washington, DC: CCRP, 1999.
- Ames, Roger, translator. Sun Tzu: The Art of Warfare. New York: Ballantine Books, 1993.
- Battlega, John A. and Judith K. Grange, editors. The Military Applications of Modeling. Wright-Patterson Air Force Base, OH: Air Force Institute of Technology Press, 1988.
- Cebrowski, Arthur K., and John J. Garstka. "Network-Centric Warfare: It's Origin and Future." U.S. Naval Institute Proceedings. January 1998, 28-35.
- Department of the Army. Operations (FM 100-5). Washington, DC: June 14, 1993.
- Department of the Navy. Naval Warfare (NDP 1). Washington, DC: 28 March 1994.
- _____. Naval Logistics (NDP 4). Washington, DC: 10 January 1995.
- _____. Warfighting (MCDP 1). Washington, DC: 20 June 1997.
- _____. Logistics (MCDP 4). Washington, DC: 21 February 1997.
- _____. Command and Control (MCDP 6). Washington, DC: 4 October 1996.
- Griffiths, Samuel B., translator. Sun Tzu: The Art of War. London: Oxford University Press: 1963.
- Handel, Michael. Masters of War: Classical Strategic Thought. London: Frank Cass, 1996.
- Joint Military Operations Department, US Naval War College. Joint Military Operations Syllabus, 2000. Newport, RI, 2000.
- Lewis, Mark Edward. Sanctioned Violence in Early China. Albany, NY: State University of New York Press, 1990.
- Marine Corps Combat Development Command. The Basic School Homepage. <<http://www.mcu.usmc.mil/TbsNew/home.htm>> (17 April 2000).
- Meskill, John, editor. Introduction to Chinese Civilization. New York: Columbia University Press, 1973.

Richter, Benjamin E., producer. "Sun Tzu's Art of War." Video produced for The Discovery Channel. 1994.

Ronan, Colin A., editor. The Shorter Science and Civilization in China: An abridgement of Joseph Needham's original text (Volume 1). Cambridge: Cambridge University Press: 1978.

Rosenberg, Ralph G. "Relative Combat Power." Military Review. March 1978,56-67.

Sawyer, Ralph D., translator. Sun Tzu: The Art of War. Boulder, CO: Westview Press, 1994.

U.S. Joint Chiefs of Staff. Doctrine for Joint Operations (Joint Pub 3-0). Washington, DC: 1 February 1995.

_____. Joint Doctrine for Intelligence Support to Operations (Joint Pub 2-0). Washington, DC: 5 May 1995.

Vego, Milan. On Operational Art (4th Draft). Naval War College, Newport, RI: 1999.

Wilson, Andrew R. "Sunzi Bingfa/Sun Tzu's Art of War: Efficiency and Artistry." Lecture. U.S. Naval War College, Newport, RI: 22 November 1999.