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Interessant ist sein Werk auch deshalb, weil es die Fassbarkeit der Prozessdynamik nahebringt. Die westliche Analyse braucht einen statischen Punkt, an dem die Analyse anzusetzen vermag. Die Dynamik wird analytisch bestimmt, was insofern einen Nachteil in sich birgt, als nur eine Entwicklungsrichtung berücksichtigt wird und berücksichtigt werden kann. Nicht so der pragmatisch-konkrete Ansatz der chinesischen Einschätzung, die in Sun Tzu's Werk gut zum Ausdruck kommt. Hier besteht das Ziel darin, ein möglichst grosses Aktionsfeld mit konkreten Situationspunkten zu überziehen, aus denen sich dann die möglichen Abläufe von Ereignissen mehr erahnen als deutlich fassen lassen. Mit Recht kann deshalb behauptet werden, Sun Tzu's Kriegskunst sei der erste Versuch, eine Prozessdynamik zu begreifen und sie darzustellen.

Abschliessend liesse sich sagen, bei Sun Tzu's Werk über die Kriegskunst handle es sich nicht wirklich um eine Theorie des Kriegshandwerks. Vielmehr schildert der Text mit seinen Strategemen pragmatisch-konkrete Situationen und erläutert Verhaltensweisen dazu. Schachbrettartig entsteht so durch das Herausarbeiten einer Hintergrundsstruktur und der damit erreichten Beschränkung auf die wesentlichen Situationen ein Netz von Bezugspunkten, die untereinander verbunden sind und auf Grund derer sich Handlungsabläufe erfassen und damit planen lassen. Alle diese Schritte sind jedoch vom Spieler oder Handelnden selbst zu vollziehen, Sun Tzu liefert lediglich ein Schachbrett mit Figuren. Analytisch gesehen hat er nur den ersten einer Reihe von unentbehrlichen Schritten getan, die schliesslich den Aufbau einer Theorie in deduktiv-abstrakter Weise erlauben würde.

Wichtig erscheint sein Werk deshalb vor allem als Beispiel chinesischer Denkschemata und ihrer Stärken und Schwächen. Gerade diesen Aspekten wird jedoch in der Regel bei den Betrachtungen der Kriegskunst nicht die nötige Aufmerksamkeit zuteil. Zu sehr dominieren die bestechenden Strategeme. Dabei vermag gerade erst die Darstellung des chinesischen Gesellschaftsverhaltens und Denkens dem Werk seinen Platz in der Darstellung menschlichen Wissens zu verleihen.

Mit freundlichen Grüssen

Der Schweizerische Botschafter
i.A.



(H.J. Roth)

✓ Beilage erw.

Kopie an: EDA, Politische Abteilung II

第二屆孫子兵法國際研討會論文摘要

主 編
國際戰略研究基金會
孫子兵法研究會



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Symposium Paper (Abstracts)

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EDITOR'S NOTE

For the purpose of academic exchanges among the participants in the second International Symposium on Sun Tzu's Art of War (ISSTAW), the collection of the abstracts of papers which in part reflects the accomplishments of the Second ISSTAW is compiled.

Only the abstracts of papers received before September 10 datelined in the invitation announcement are partly contained in the collection. The papers received after September 10 will be collected separately.

The editing and compiling work was done by the academic group of the Second ISSTAW under the guidance of Mr. Wu Rusong, secretary general of ISSTAW. Mr. Yu Rubo is responsible for the selection and compilation of the papers of Chinese version. While Mr. Pan Jiabin and Mr. Yao wenbin are responsible for English translation and collation work. Gratitude is expressed for Mr. Liu Qing, Mr. Ren Li and Miss Liu Ling who took part in the compilations of the collection and indebtedness is given to Miss Yuan Lin, Miss Xu Xiaojun, Mr. Fu Chengli, Mr. Li Yuanchao, Mr. Wan Wei and Mr. He Xiaodong who took pains to translate Chinese version into English one.

The collection may leave something to be desired, because of our limited knowledge. Any criticism and recommendation by participants in the Second ISSTAW will be much appreciated.

THE IMPACT OF SUN TZU'S THOUGHT ON CONTEMPORARY STRATEGY

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The article of The Impact of Sun Tzu's Thought on Contemporary Strategy mainly elaborates the theoretical principles of the immortal work of Sun Tzu's Art of War, and its deep impact on political and military strategies in the contemporary world. It expounds how living 2500 years ago, Sun Tzu had set forth a theory similar to the one which is called "comprehensive national power" in the world today. It also testifies to the importance of Sun Tzu's idea of "disrupting enemy's alliances by diplomacy" and of using diplomatic means to reach the aim of "subduing the enemy without fighting". "Know your enemy and know yourself", only then can you fight a hundred battles without defeat". This statement has become the guiding rule in the world today for developing an information net. It tries to prove the correctness of the theory that "there has never been a protracted war, that benefitted the country." The article also uses the tenets and principles in Sun Tzu's Art of War to explore the future world situation. The author discusses the timeless application of this immortal work and warns that the modern science and technology are forging ahead

continuously, therefore, in studying Sun Tzu's Art of War one should not be confined to the origin, but should have a wider vision with a creative spirit.

SUN TZU'S THOUGHT AND MULTI—POLAR COMPETITIONS

Wu Rusong and Chen Weimin

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The Art of War was brought forth by Sun Tzu in the Spring and Autumn Period (770—476 B. C.) of multi—polar competitions. It was a theoretical summary of multi—polar relations among the states and principalities during the Spring and Autumn Period and constituted a conceptual framework for future multi—polar competition we can draw on in a world of today when the bipolar strategic posture is changing into a multi—polar one.

Firstly, the multi—polar strategic posture depends upon the multi—polar economic structure. In the Spring and Autumn Period, the strategic posture of multi—polar competitions emerged in the wake of decline of Zhou Dynasty's unified primitive economy and upsurge of enfeoffed principalities' multi—polar economy. After World War Two, the bipolar strategic posture depended on the antagonistic competition between the capitalist economic system and the socialist one. In future, the strategic posture will hinge on the developments of multi—polar economic structure which has taken shape gradually.

Secondly, the evolution of the strategic posture from the old one to a new one takes place step by step. In history the struggle between death of the old and birth of the new is complex and complicated. In general, this incremental and tortuous process of change can be divided into three stages, i. e. "Inertial Period" when the old strategic posture still plays greater role; "Chaotic Period" when the old and the new contend fiercely but always ends in a draw; and "New Order Period" when the new strategic posture prevails. Each period has its own feature and its different law of operation. Therefore, we must carefully judge the hour and size up the situations, and take appropriate strategic guidelines at different stages.

Thirdly, The characteristics of multi—polar competition are different from that of bipolar competition. Normally, three key points are stressed in the guiding principles. The first is that non—zero—sum game prevails at multi—polar competitions where interests of the concerned parties are interwoven, though the absolute zero—sum game may still exist. The second point is that to a large extent competition takes place at the same level. In multi—polar competitions, the position of strength of one polar in relation to that of another is asymmetrical, i. e. they are at different levels. Though competition between different polars at the same level coexists with that at different level, the main rivalry will take place at the same level. Hence, great importance must be attached to the same level competition in multi—polar competitions. The third point is that comprehensive security plays greater role in competition. For, in the multi—polar posture, the relationship of polars is complicated and multiple. Each polar may face multifarious challenges in political, economic, military, technological, cultural, religious and ethnical fields. Therefore, security is no longer a simple question of military safety and the comprehensive security competition will have to become

a megatrend.

Lastly, the emergence of various schools of thought marked by different doctrines will be prerequisite to the formation of right strategies and tactics. In multi-polar postures with complex contradictories, complicated situations and ever-changing relationship, the strategy and tactics must be used in a more flexible way. In response to the multifarious challenges, multilateral opportunities and manifold interests, various schools of thought and different strategies and tactics are badly needed through vividly and vigorously contending in academics. Only in such circumstances can the people of talent be found, the free airing of views be encouraged, the wisdom of the masses be pooled and decision-making be made in the optimum manner. Therefore, it is of paramount importance to have the aid of "foreign brains", stress the establishment of "think tank" and promote academic democracy in the multi-polar postures.

SUNZI AND OTHER ANCIENT CHINESE MILITARY CLASSICS THEIR INFLUENCE ON CHINESE STRATEGY TODAY

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The most interesting aspect of SUNZI's "Art of War" is that a book written around 400 B. C. is still relevant to today's political and military affairs, whereas parts of CLAUSEWITZ'S writings are already obsolete. But China's military tradition is not limited to Master SUN. The so-called "Seven Military Classics" — "Sunzi's Art of War", "Sima's Art of War", "Master Weilliao's Art of War", "Six Scabbards", "Three Strategies", "Master Wu's Art of War" and "Dialogue between Tang Taizong and Li Jing" — were — and still are — standard study in China. My purpose will be to trace China's strategic tradition in today's military thought, having sometimes to go back as far as the 1911 Revolution. This study will be divided into five sections; each of which will deal with a particular aspect of the "Seven Military Classics" influence.

1. SUN ZHONGSHAN'S influence has been acknowledged by most political theoreticians. As far as military matters are concerned, he certainly had studied ancient military works, as some of his ideas testify. He stresses the importance of concern for military affairs if the State is to survive. This idea is emphasized by SUNZI and "Sima's Art of War".

The fundamental relationship between the welfare of the people and national defense also stems from China's tradition. All military Classics put great emphasis on ensuring the prosperity of the whole population.

The prevalence of spirit over matter derives from China's tradition too. Morale as a fundamental strength — how to stimulate and preserve it — comes from SUNZI, but other Classics put a still greater emphasis on education and motivation. "Spirit" also covers the use of political means and of deceit to subdue the enemy.

2. Most modern-day strategists have had a thorough knowledge of their country's military tradition.

Many authors often quote SUNZI, MAO ZEDONG, JIANG JIESHI, ZHU DE . . . Many handbooks are sprinkled with quotes and paraphrases of old military works: "Make an uproar East, Strike West".

Most important are ideas drawn from military Classics that pervade the works of many Generals: GUO HUARUO, LIU BOCHENG, ZHU DE, FENG YUXIANG, LIN BIAO. . . Some of these principles are: Subduing the enemy without battle, keeping the initiative, deceit, the combination of "normal" and "un-orthodox" forces. . .

3. An interesting feature of China's military tradition is the impressive amount of reprints, commentaries and editorial work on the military Classics. Most of this work is motivated by practical military needs. Many authors are military Theoricians or high ranking Officers, the best known being GUO HUARUO for his translations and research on SUNZI. Most publishing Houses involved are concerned with military problems, such as Liberation Army Publishing Company in Peking or the Institute for National Defense in Taiwan.

The relevance of old military Classics for today's military affairs and conduct of war is often stated as the fundamental reason for editing and publishing work, the aim of which is practical study by Staff officers and not mere academic research.

4. It seems that the study — of SUNZI at least — has never been neglected in military academies. JIANG JIESHI — himself learned in SUNZI — set it as part of the officers basic curriculum. Things do not seem to have changed since 1949. If not compulsory study material, the Classics are — at least — recommended reading, as the many translations in modern Chinese and commentaries intended for Officers' instruction do testify.

5. Actual military operations during China's recent past also show the persistence of the Classics' influence. The emphasis on political action, State and military Institutions, morale, deceit, initiative and capturing the enemy intact derives from the Seven Military Classics.

China's crossing of the Yalu (Autumn 1950) was a masterpiece of infiltration and sudden attack of an unsuspecting enemy. The India War (1962) involved undermining the enemy's international moral support, keeping the initiative, infiltrating the opponent's rear and striking from unexpected directions. Tactical principles governing manoeuvre as applied in the P. L. A. also bear the influence of China's martial Tradition. A great emphasis is put holding attacks while the main force is secretly driven on the flanks or rear of the enemy to encircle and annihilate him. This reminds of SUNZI's saying (Shi pian, 5): "As a rule, when giving battle, engage the enemy with 'normal' forces, subdue him with 'extraordinary' troops." Relatively small and elusive units on the march which concentrate for attack, also bear the mark of the ancient Classics.

All the above elements do show that in China — this being a deep contrast with the West — the study of ancient military Theory is not to be confined to historical or academic research.

I hope to have demonstrated how the works of China's ancient Strategists have influenced and left their mark on today's military. So, the knowledge and study of the Classics of Strategy cannot be dispensed with, if one wants to have a better understanding of modern China's policies and strategies, not only of China, but of other countries as well, which were influenced by Chinese military thought.

SUN TZU'S "COMPLETE VICTORY" STRATEGIC THINKING AND HIS INTERNATIONAL RELATIONS THEORY

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Sun Tzu's strategic thinking of "subduing the enemy without fighting" to "win a complete victory" is the central content and the leading concept of his entire ideological system. Its core is to realize the state's strategic purpose by relying on its comprehensive power and employing all means in the fields of politics, economy, diplomacy, military affairs and others. In the world today where all the countries are interdependent and there are plenty of contradictions in their relations, Sun Tzu's strategic thinking is of more practical significance.

Firstly, Sun Tzu's strategic thinking of "subduing the enemy without fighting" to "win a complete victory" is the fundamental guiding principle of his theory of international relations. "To attack enemy's strategy", "to disrupt his alliance" and "to attack his army" are the three kinds of means of dealing with international relations under the above-mentioned guiding principle. To ensure the safety and to safeguard the interests of one's own country are the fundamental purpose and the criterion of the success of the "complete victory" strategy.

Secondly, Sun Tzu's theory of "attacking enemy's strategy" profoundly bring to light the objective law of the international struggles. "To attack enemy's strategy" is free of danger, cost-effective and efficient. It is especially suitable for the requirement of dealing with the issues of the international relations. The basic experience of "attacking enemy's strategy" has been developed as the basic method to deal with the above-mentioned issues. The major principle of "attacking enemy's strategy" provides the guarantee for the success of the "complete victory" strategy.

Thirdly, "to disrupt enemy's alliance" is the basic way to deal with the issues of international relations and achieve the strategic aim of serving the state's best interests.

The international situations should be profoundly understood and studied, the mutual coordination and the comprehensive utilizing of "disrupting enemy's alliance" as well as "attacking his strategy" and "attacking his army" should be paid more attention to and various means of "disrupting enemy's alliance" should be taken in positive and flexible manner. These are the basic principles for the "disrupting enemy's alliance" to be brought into full play.

Moreover, the historical fact of the unification of China by the state of Qin is a shining example to entirely utilize Sun Tzu's strategic thinking. To some extent, the whole history of international relations is the one that all countries "attack enemy's strategy", "disrupt his alliance" and "attack his army" for the basic interests of their own nations.

The people's Republic of China carries forward and develops the quintessence of ancient Chinese strategic thinking. According to the current changes and developments of international situations and the basic

nature of socialist country, China pursues the peaceful foreign policy with maintaining independence and keeping the initiative in its own hands. On the basis of the Five Principles of peaceful coexistence, China constantly develops the friendly and cooperative relations with all countries all over the world and has gained tremendous achievements.

SUN TZU AND STRATEGIC STUDIES

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As a pioneer of strategic studies and a founder of strategy in ancient China, Sun Tzu was not only held in great reverence by strategists of successive dynasties, but also followed as an example by researchers, of ancient and modern times, in and out of China. His initial research on strategy, his rich experience on strategic studies, and many of his theoretic principles contained in his 13 chapters — — — "The Art of War" are still of great importance for reference and guidance to those who are engaged in strategic studies today.

Proceed from the interests of the state — — — which was the principle of Sun Tzu on strategic studies, has been being followed by all researchers.

Sun Tzu asserted that the war and military problem was so vital a matter to a state that it must be studied seriously, because he believed it was related to the fundamental interests of a state. Although a state of Sun Tzu's time was quite different from a modern one, and the contents of its interests of that time was also intrincically different from today's, the basic aspects of the interests of all states — — — — surviving and developing are identical. When we look back the history and observe the world, we can find that no strategy and strategists, no strategic studies and strategic researchers do not serve the interests of a specified state. As for China today, for survival and for development, we not only need a stable internal environment, but also a peaceful external one. It is our objective of strategic studies to safeguard the internal stability and the world peace, where lies our fundamental interests. Many of the principles in "The Art of War" are still used as yardsticks to evaluate the advantages and disadvantages of a strategy, and as guides of strategic studies.

Mr Collins, former director of Institute for National Strategic Studies, NDU, USA, the author of "Grand Strategy", believes that in our age no one has more profound understanding than Sun Tzu about the relations in strategy, about the problems of strategy should be taken into account, and about the restrictions faced with the strategy. He held that most of Sun Tzu's viewpoints were as important today as they had been during his time. The American's strategy of deterence is regarded as the best example according with

Sun Tzu's principle of "breaking the enemy's resistance without fighting". The strategy of "beyond containment" adopted by Bush government has sown discords between the East Europe and the Soviet Union, thus weakening the strength of the Warsaw Pact. Perhaps it may also be looked as an example which embodies Sun Tzu's idea of "balking the enemy's plans" and "destroying the junction of the enemy's forces". Many of Sun Tzu's principles have won countless victories, and become objectives pursued by hundreds of those who studied the warfare and strategic problems. Sun Tzu's principle of "knowing the enemy and knowing oneself" is as important to strategic guides as to strategic studies.

The method Sun Tzu applied to study strategy can still be used as reference and guidance today.

Following naive materialism, Sun Tzu drew his strategic principles from practical experience of his predecessors, of others in his time, and of his own. With the help of primitive dialectical point of view, he observed various phenomena in war, analysed the opposites of all kinds of contradictions of war, the conditions they were interdependent and how they transformed from themselves to their opposites. These haven't lost their radiance, and from them we can gain a lot of enlightenment. Many problems "The Art of War" touched upon reflected the intrinsic attributes of strategy and strategic studies — — — to grasp the war and military situation as a whole. Sun Tzu was also a pioneer who combined the study of war and military problem with that of economic, political, diplomatic, natural and international situations. Sun Tzu's method of strategic studies was the most progressive one in his time, and it is still useful today.

Nowdays, as "The Art of War" entering the fields of economy, politics, sports, and medicine etc. it is of practical significance to study its value as reference and guidance to strategic studies.

SUN TZU'S ART OF WAR AND NATIONAL SECURITY STRATEGY IN MULTIPOLAR ERA

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Since dramatic changes of the world structure began at the end of 1980s, the world is advancing toward a multipolar era more rapidly than expected.

Almost two generations have lived through 40 years in a bipolar period. While confronted with a multipolar era, People of all nations feel perplexed. Sun Tzu's Art of War, born in Spring—Autumn Period — the first multipolar times in Chinese history, evolved a series of talent strategic concepts through analysing the intricate political, military and economic relations of powers existing simultaneously at that time, which provides us with great inspiration for deciding a strategy, especially the national security strategy in an emerging multipolar period.

1. A multipolar era requires a comprehensive national security strategy

SunTzu's Art of War not only brilliantly expounds the military strategy but has unique insights into relations between national security and diplomacy, economic strength and elites. It has initially evolved a

concept of comprehensive national security. We can say it is until today that people finally come to realize the significance of this concept.

There are fundamental differences between the presently emerging multipolar era ahead of us and the one in the modern history. In this multipolar era, national security is under the direct great influence of global issues such as the existence and proliferation of nuclear weapons, the integration and violent competition, the deepening gap between the North and the South, the sharpening competition of science—technology and education and environmental protection etc. . . More and more nations have come to realize that a comprehensive national security, covering politics, economy, military, diplomacy, science—technology and education, is essential to have a comprehensive national security strategy covering politics, economy, military, diplomacy, science—technology and education to effectively safeguard national security.

2. Deterrence becomes a widely accepted military strategy basis in a multipolar era

What Sun Tzu's Art of War particularly holds in esteem is "to surrender the enemy without using any force". This is a military strategy basing on deterrence instead of on real fighting. Apparently, this talent idea came into being after summing up the successes and failures of the frequent wars at that time.

More and more nations are making their own independent military strategy in this emerging multipolar era. They not only come to recognize that it is better to pursue national interests through advantageous political and diplomatic means backed by military strength rather than through direct use of military forces; they also realize that use of military forces is becoming more and more uncontrollable and unbearable under modern technology conditions and international political and economic structure. Thus, deterrence serves not only as the basis of military strategy of big powers but also as one widely accepted by more and more other nations.

3. War of quick decision becomes the core of military strategy in a multipolar era

Through analysing the relation between the national strength and the capacity for supporting war, Sun Tzu's Art of War paid particular attention to the quick decision and developed a complete set of military strategy taking the battle of quick decision as the core.

The battle of quick decision with limited targets is becoming the main war pattern of all nations in this emerging multipolar era. A war under the condition of modern technologies confronts a nation with the issue of war—supporting capacity, which is hard to sustain because of the world order and the checking forces. Therefore, battle of quick decision is the core of military strategy in the multipolar period.

4. Information is an indispensable significant factor in a multipolar era. Sun Tzu's military Thought believes that obtaining accurate and complete information is one of the decisive factors of victory or defeat of a war. Intelligence is of great strategic significance. We should not only obtain direct military information but also lay stress on political, economic information etc. . . .

In this emerging multipolar period, information is not only essential to military activities but also has become an important, indispensable resource. The amount and quality of information obtained produce exert direct effects on national strength as well as national security. Information as an essential element in national security draw more and more nations attention.

A PRELIMINARY STUDY OF THE STRATEGIC DECISION—MAKING IN THE ART OF WAR

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From the perspective of decision—making, Sun Tzu's idea of strategic decision—making can be examined from the following 4 aspects. First of all, the preliminary division of levels of military decision—making. There were revolutionary changes during the late Spring and Autumn period that gave rise to ART OF WAR, when human understanding of warfare deepened with the development of wars. With regard to types of decision—making, single—level decision—making had evolved into multi—level decision—making. Sun Tzu divided military decision—making into two levels, i. e. "calculations in the temple" (strategic decision—making) and battlefield decision—making (for campaigns and battles). "Calculations in the temple" is the pre—war activity to seek the best way to conduct warfare from a macro perspective after evaluations of the enemy's strength and one's own strength. Sun Tzu summed it up as "JI" (strategy) and called it "calculations in the temple." Battlefield decision—making is the micro coordination of the progress of war under actual battle situations to seek the best way to conduct battles. Sun Tzu summed it up as "Quan" (expedience). "calculations in the temple" is the highest level of military decision—making, which influences the progress and outcome of war. Secondly, "calculations in the temple" must follow the principles of system, anticipation and benefit. The principle of system places great importance to the relationship within the military system itself, and the relationship between the military system and the political, economic, and diplomatic systems, enabling decision—making to function from a strategically advantageous position and making everything fall in its right place. The principle of anticipation attaches great importance to the possession of full and accurate information and intelligence so that decision—making is conducted on solid foundations and based upon factual resources. The principle of benefit puts great importance upon the criteria of "victories both in war and in justification," "complete victory," and "speedy victory." It is used to measure the feasibility of the decision—making, and makes decision—making as an expression of national interest. Thirdly, Sun Tzu categorizes the process of "calculations in the temple" into 4 stages: 1. target setting; 2. operational research; 3. confirmation of plans; and 4. implementation of plans. Fourthly, Sun Tzu set strict demands upon decision makers in areas such as wisdom, knowledge, experience, and character self—cultivation.

**"SUBDUING THE ENEMY WITHOUT ENGAGING IT"
AND
STRATEGIC DETERRENCE**

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The essence of Sunzu's military thinking is "Subduing the enemy without engaging it" which is also the intention and expectation of strategists and militarists in working out their war plans. In respect of military affairs, the main approach to the realization of "Subduing the enemy without engaging it" is strategic deterrence.

The original concept of strategic deterrence should be traced back to "the Art of War" composed by Sunzu. Although Karl Von Clausewitz, who became a notable figure more than 2000 years after Sunzu, could be regarded as the earliest ancestor of the Western war theory, his strategic realm is far different from that of Sunzu, especially on the thinking of "winning victory without war". Not until the 1950s of this century when British strategists put forward the concept of "grand deterrent" did the thinking of strategic deterrence get theorized and strategized.

The nuclear theme of strategic deterrence lies in the "creation of posture". The idea of "seeking advantage posture" advocated by Sunzu means to create a favorable situation so as to force the adversary to give up his war scheme. To pose a favorable posture needs not only quantitative advantage but also qualitative advantage, and more important the advantage in preparation to wage real wars. The effect of strategic deterrence can be reflected not only by war—fighting posture and actual war preparation, but also by the threats in statements and through propaganda. Now the American way of "creating advantage posture" usually concentrates on two steps: offering deterrent statements first, and then following real military actions.

Strategic deterrence mainly aims at two goals: deterring and compelling. The former goal includes denying the enemy war plans with threatening military posture, warning that if the adversary dares to launch an aggressive war, he would be annihilated completely, so as to force the adversary to give up his war schemes. It is obvious that this strategic concept truly follows the thesis of "the best policy of denying the enemy plan" advocated by Sunzu. The latter goal is to compel the enemy back to its home country with threatening military posture, warning that if the aggressors refuse to retreat, they would suffer the fate of total destruction. In the modern theory of strategic deterrence, the prevention of crisis escalation and conflict breakout are also given key importance.

Strategic deterrence stresses the approach of "Subduing the enemy without engaging it". According to

AGING IT"

the principle of the integration of goals with means, the way to non-war victory mainly includes two factors. Firstly, the non-war approach emphasizes deterrence of prevention, not to wage an actual war, but instead to rely on the capability and preparation. In this way, wars should be deterred. The second factor refers to entering a small-scale warfare, such as military strikes for warning or teaching a lesson, so as to deter the escalation of conflict intensity and prevent the breakout of larger-scale warfares. The requirements for the approach of conquering enemy without war are: the realistic strength of waging a war should be guaranteed and the art of controlling a war should be ready in hand.

Intelligence and information for assured strategic deterrence are strongly needed. In "the Art of War" by Sun Tzu, the thesis that "knowing well the adversary on one side and his own on the other could ensure the victory of every warfare" elaborates decisively the importance of required intelligence and information. To impose an effective strategic deterrence, it is necessary to clearly understand the enemy's strategic intention, its war capability and potentiality, its endurance on strategic deterrence, and its reaction toward the military pressure; it is also necessary to know well the effectiveness of deterrence, the capability to deal with the enemy reaction, and the strength and potentials to wage a war once deterrence fails.

In conclusion, it can be said with proud that Sun Tzu, the notable figure two thousand years ago as well as today, is the earliest ancestor for the modern theory of strategic deterrence. His doctrine stands at the first place in all strategic theories from the ancient times up to date. Now, his thesis of "conquering enemy without war" seems to be accepted and appreciated by most strategists, militarists, and politicians as well.

"TO SUBDUE THE ENEMY WITHOUT FIGHTING" IS A GENERAL DEPICTION OF THE GENERAL STRATEGY IN FUTURE

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The idea "to subdue the enemy without fighting" is first put forward by Sun Tzu, yet it did not occupy an important place in the Art of War, which was mainly devoted to the practical ways and means of actual fighting in order to win the war and, limited by historical circumstances, did not elaborate in detail how to subdue the enemy without fighting.

With the progress of the history, however, this inconspicuous idea in the Art of War by Sun Tzu has become increasingly brilliant due to the following three reasons: first, war in fact assumes two forms—actual fighting and deterrence. Actual fighting means combat on the battlefield and is an indirect form of subjugation, that is, the enemy would not show obedience without being dealt with a hard blow while deterrence is called "war in the brains of the generals" and is a direct form of subjugation, which means the enemy would show obedience without actual fighting. With the development of science and technology, the battlefield of actual fighting has been shrinking while that in human brains expanding. Second, after long

years of preparation and development, particularly after the advent of nuclear weapons, fighting and deterrence have exchanged their places on the stage of war. Third, world wars in future would not be war fighting as took place in history, but a system of war, the main feature of which will be deterrence, not actual fighting. So, "To subdue the enemy without fighting" predicts the megatrend of future world war.

ON "SUBDUING THE ENEMY WITHOUT FIGHTING" — — SUN TZU'S STRATEGIC THINKING OF COMPLETE VICTORY

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The strategic thinking in Sun Tzu's Art Of War can be divided into two parts, i. e. the strategy of complete victory, and the strategy of speedy victory. The essence of the strategy of complete victory is "to subdue the enemy's troops without fighting." Its final goal is to achieve a complete victory so that "the state is kept secure and the army is preserved" to the benefit of all—under—heaven. In order to achieve the preliminary objective of subduing the enemy, powerful military might is used as a foundation, upon which the phenomenon of "no fighting" is created in terms of military struggles, Its essence, however, is "fighting" in non—military ways. The chief methods employed are to attack the enemy's strategy and to disrupt the enemy's alliance. In Sun tzu's strategic thinking "to subdue enemy's resistance without fighting" is the starting point and the very truth. It is a perfect guiding strategy superior to other military strategies. It is a good way to contain and to deter war. It is the crystalization of the Art of War. From the competition under the threat of saturation of nuclear weapons, the balance created in the course of arms race between the nuclear superpowers, and the exploration of strategies in the nuclear age, Sun Tzu's strategic thinking of complete victory, i. e. "to subdue the enemy without fighting," is of great significance in the guidance of our practice.

Sun Tzu's strategic thinking of complete victory, "to subdue the enemy without fighting" provides new approaches for the ease of the world situation, and sheds new light on mankind's peaceful future. From the macro perspective of the development of human history, and in terms of the world's future development, there is reason to believe that the Art of war, with "subduing the enemy without fighting" as its fundamental strategic thinking of complete victory, will certainly benefit mankind.

"FORCE THE ENEMY TO GIVE IN WITHOUT FIGHTING A BATTLE" AND NOWADAYS INTERNATIONAL STRATEGY

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The tenet guiding war, "Force the enemy to give in without fighting a battle" produced by Sun Tzu, is not only an inventive creation in the history of military thought, but also of great importance in guiding formulation and development of nowadays international strategy.

1. "Force the enemy to give in without fighting a battle" refers to forcing the enemy to surrender without using a battle directly. Its main idea is to achieve the aim to force the enemy to submit by the means of "stratagem" and "diplomacy", not by military means.

2. SunTzu not only has put forth the strategic guiding idea, "Force the enemy to give in without fighting a battle", but also has clarified the two indispensable basic conditions to reach the strategic goal. The one is to have strong military strength as backing. The other is to bring one's own initiative into full play. For example, it is necessary to maintain good relationship with neighbouring countries, to ally oneself with friendly countries against the enemy, to force the enemy to be beset with difficulties both at home and abroad and disintegrate the enemy, and so on.

3. "Force the enemy to give in without fighting a battle" is a guideline which can be put into practice nowadays. This SunTzu's thought is of great importance in restraining bellicose elements, holding back the impending dangers of war, resolving international contradiction and conflict correctly, and drafting and developing nowadays international strategy.

SUN TZU AND THE MODERN NUCLEAR DETERRENCE THEORY

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The deterrence theory has existed from ancient times. As early as in the closing years of the sixth century B. C, Sun Tzu wrote his Art of War, in which he advanced the deterrence theory as "to subdue the enemy without fighting", "to win the enemy by stratagems", "to win the enemy by using diplomacy" and "the skillful warriors first made themselves invincible". Sun Tzu's theory is full of substances, farsight and sagacity. Its intention goes beyond the scope of general military strategy and belongs to the realm of grand strategy.

Although there is no lack of examples of "to win without fighting" through the ages, the deterrence theory remained a nonessential in contrast to the war—fighting strategy. After the Second World War, the deterrence theory attained its fullest development along with the fierce nuclear arms race, and became some countries' defense strategy.

The original intention of nuclear deterrence is to deter nuclear war. According to our calculation, 600 strategic warheads each for the U. S. and the Soviet Union and 200 each for the medium nuclear powers would be enough to keep the strategic stability. Since the two superpowers struggle for world hegemony and vie for nuclear superiority, the nuclear arms race is going strong and violent. The two superpowers have produced and deployed near 50000 nuclear warheads. Once a nuclear war breaks out, the whole world be destroyed. Now the whole mankind is living in a "terror peace". The nuclear deterrence which comes into a blind alley is opposed by the people in the world.

The current international situation has changed dramatically. The conflicts of interests between countries reflect not only in military field, but in more common, they reflect in the fields of politics, economy, diplomacy, technology and culture. All these conflicts constitute a comprehensive threat to a country. A simple military deterrence, especially nuclear deterrence, can not be effective to the non—military conflicts. And the economic deterrence, diplomatic deterrence and technical deterrence are increasing. Many countries have recognized that what a country needs in the world of today is a comprehensive national power, military force in its own is not enough.

A new deterrence time which takes a comprehensive national power as basis is coming. Such a deterrence will be beneficial to the world peace and development and will push Sun Tzu's deterrence theory to a new stage.

SUN ZI'S CONCEPT OF CAUTIONS FOR WAR AND THE MODERN CONCEPT OF AVOIDANCE AND TERMINATION OF WAR

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The concept of cautions for war is a very important principle of Sun Zi's military thought as well as one of its core components. The first sentence of the first chapter of Sun Zi's Art of War has put it very clear: war is a matter of extreme importance for a country. It is vital to the life or death of a state or an army. Therefore, it has to be very carefully handled.

Sun Zi's concept of cautions for war is consisted of two very important parts: It has to be very cautious in waging a war, including the preparation, conducting and conclusion of a war. It has to be very cautious to make a war. Much more attentions have been paid to the first component but less to the last component for various reasons.

It is of special importance in studying Sun Zi's concept of cautions for war in the present time, because:

1. Modern war is much more destructive than anytime in the human history. It even can destroy human being itself.
2. Modern war is conducted at a much larger scale than any time in the human history.
3. Modern civilization is very much fragile. It needs much more time to recover from a war.
4. Modern war is a comprehensive trial of military, political, economic, cultural strength rather than a trial of sole military strength.
5. It is increasingly difficult in the present time to reach and keep the goal of war such as occupation of land, population and natural resources. The results often are just the opposite. This has been proven by many wars since World War Two. To a large extent, the Korean War, the Vietnam War and the Afghanistan War made the US and the USSR lose rather than gain their strength and influences.

For the above—mentioned reasons, conclusion might be reached that attention should be paid from the concept of cautions for war to the concept of avoidance and termination of war.

VIOLENT MEANS DECLINE, SYMBOLIC METHODS RISE

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More than 2500 years ago, when Master Sun made it a military motto that the best way to fight was to subdue the enemy troops with no fighting, what he suggested was a priority to the employment of resource and diplomatic means in seeking security of a state, considering that the use of military forces would cost much more, not only economically, but also politically and militarily. Today, when leaders of all nations are talking about the "demilitarization" in world affairs, what they take into account is no longer the price for the military uses, since that a nuclear war would cost almost everything and the nuclear weapons tend to smash mankind as a whole while wiping out the enemy forces.

As every one can see it, the world politics is a dilemma. On one side of the coin, the art of killing has been developed to such an extent that no one would take the risk to commit suicide by launching nuclear massacre, on the other, serious conflicts still exist and the national security remains a problem for all countries as it did before. More seriously, the traditional way of political thinking tends to remind governments to spend more on arms while the reality of interdependence of nations needs peace badly. What's the key for the lock?

The answer is: Appeal to civilization rather than wild nature, to symbols rather than weapons. Man is not the only species that uses violence, but the only one that uses symbols. Symbols have been used to create cultures, exchange ideas and establish social orders, and they may also be selected to serve for political purposes. Compared with military means, symbolic methods are naturally more civilized and more rational. To meet international conflicts by symbols instead of violence is not merely a suggestion by any sage but the

requirement from the basic interests of the "global village".

Firstly, symbols can be used to help establish "global reason".

Controversial as it is, the establishment of the "global reason" is still the Noah's Ark to save the world. Misperception, hostility and unreasonable desire for interests have been the major powers which drive people to wars and they can only be eliminated through well-meaning communications — — — the exchange and change of symbols and the identity of those symbols covering rational message. The process of establishing "global reason" is also the process of the exchange and identity of symbols with different political, economic and cultural background.

Secondly, symbols can be used as part of the deterrent force.

It is also true that reason does not mean and cover everything because of two causes: That the human reason is not mature enough and that different standards are being adopted to make rational judgements. Therefore, deterrent power is necessary to be kept to stop the possible conflict escalations. But the more important point is, symbols of violence but not violence itself should be used to keep the deterrent forces effective.

For today's world, the best way to "fight" is to melt conflicts through the employment of symbols and thus to find no enemy troops to subdue. To meet the current international conflicts, when violent means decline, symbolic methods rise.

ECONOMICS AND NATIONAL SECURITY IN THE 1990S

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While much of *The Art of War* deals with strategy and tactics, Sun Tzu discusses the relation between economics and national security in chapter 2 and is mindful of this relationship in other parts of the book. This paper will discuss the ways in which economics and national security are intertwined in the 1990s. The discussion will be organized as follows:

1. Historical perspective: economics and national security from the end of World War II to the 1990s.
2. Economic prerequisites for a strong military capability.
3. Economic constraints on military capabilities in the 1990s.
4. Impact of crises and wars on economic well being.
5. Economic relations as a source of tensions in the 1990s.
6. Economic strength and political influence in the 1990s.
7. To what extent can economic power substitute for economic power in the 1990s?

It briefly surveys the connections between economics and national security during the cold war, then turns to the main topic of the paper: economics and national security in the 1990s. We address five specific

connections: the economic prerequisites for a strong military capability in the 1990s, both resources and infrastructure; the ways that economic conditions could constrain the military capabilities of the United States, the Soviet Union, and other powers in the future; the impact of crises and wars on economic well-being in the highly interdependent world of the 1990s; trade and financial relations as a source of tensions; and the relation between economic strength and political influence. The paper concludes by discussing the issue of the extent to which economic power can substitute for military power in the decade of the 1990s.

PROSPECTS FOR THE WORLD STRATEGIC PATTERN AT THE TURN OF THE 21ST CENTURY

— — *Some Observations under the Inspiration
of Sun Tzu's Art of War*

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As a student of Sun Tzu's Art of War, I would like to make a few remarks on the possible evolution of the world strategic pattern in the coming two decades according to one of Sun Tzu's teachings, i. e. to make judgements on the basis of comprehensive analysis.

I. A Basic Assessment of the World Strategic Pattern in the Making

Taking the world as a whole, the present "bi-polar structure" will be replaced by a "multi-polar structure", both in the political and economic senses.

And judged from their synthetic national strength, the USA, the USSR, Western Europe, Japan and China will continue to be the most important five powers in the world. Militarily, the USA and the USSR will still be the two poles, but Western Europe and Japan will gain in strength and some of the Third World countries may become new military powers. Economically, North America, Japan and Western Europe will become parallels, like three legs of a tripod. The Canadian—USA Free Trade Zone and the EEC will expand in size, and there may emerge in Asia an "East Asian Economic Community" with Japan playing the leading role. The "Group of 15" organized by 15 developing countries will play an increasingly important part. And the world economy will be further divided into blocs. In world politics, except for the five major powers, some regional powers and blocs will also gain in strength and influence and will, therefore, have an important bearing on regional and world issues. Thus there will appear a new pattern of balance of power in the world with all the above-mentioned forces conditioning one another.

II. A Prediction on Where the Major World Powers Are Heading for

Taking military, political, economic, technological, cultural and educational factors all into a comprehensive consideration, the USA will be relatively weakened in the decades to come, but will still be in the lead in strength in the world.

And the Soviet Union, because of the unpredictability of the outcome of its reforms, may lag further behind the USA, Japan and Western Europe in economic and technological fields, though it may still retain the status of a military superpower. But should it fail in its reforms, it would no longer be a global superpower altogether on the same footing as the USA. The Western Europe as a whole will greatly expand its economic, technological and military strength and enhance its political influence. And the united Germany will not only achieve a "position of predominance" in the EEC, but will also exercise much more influence in whole Europe and all the world. However, at least we can say that by the end of this century, there will not be a "United States of Europe", for "political coalition" is more difficult to attain than "economic coalition", and still more so for "military cooperation". Japan will continue to grow in its economic, financial and technological strength and will, therefore, retain its status as an "economic superpower". But it will be difficult for it to become a "political superpower" because of various kinds of restraints. And China will continue to be one of the most influential major actors on the Asian-Pacific scene, and its position in the world political and economic structure will be evidently enhanced if its reforms are crowned with success.

II. A Forecast for the Future Evolution of Relations between Major Powers

In big power politics, the USA-USSR relations will enter a brand new period of development. At the same time, the bi-polar structure will give way to various kinds of tri-angular and quadri-angular relationships. Among the tri-angular relations, there will be a USA-Western Europe-Japan tri-angle, USA-USSR-Western Europe tri-angle, a China-USA-Japan tri-angle and a USA-Japan-Germany tri-angle, besides the existing one constituted by China, the USA and the USSR.

In the Asian-Pacific region, there will soon emerge a China-USA-USSR-Japan quadri-angle and in Europe, a quadri-angle will also be gradually formed by the USA, the USSR, Western Europe and the united Germany.

THE CONTRIBUTIONS AND LIMITATIONS OF CERTAIN STRATEGIC CONCEPTS OF SUN TZU'S "ART OF WAR" IN THE FIELD OF DISARMAMENT

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I. Introduction

II. Concepts of war and peace: reinterpretations and limitations in the nuclear age

III. Contributions and limitations of certain strategic concepts of Sun Tzu in the field of disarmament as seen against the background of contemporary international relations

1. concept of "Offensive Strategy" and the modern concepts of deterrence and disarmament
2. The applicability and limitations of the concepts of deception and surprise attack
3. The contributions of Sun Tzu's concept of "Intelligence" to the process of arms limitation and disarmament

mament

4. The concepts of balance of power and Sun Tzu's concepts of calculations and national power; dynamics of the arms race and disarmament
 5. Sun Tzu's concept of dialectics in the "Art of War" and its implications in the field of disarmament
- IV. Observations and conclusions

THE EFFECT OF MILITARY FACTORS ON TODAY'S INTERNATIONAL POLITICS

— — — *On Sun Wu's Outlook on War and
Its Practical Significance*

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A

Sun Wu's military thoughts embody much more than what the domain of military science does, providing an embryonic form of the grand strategy, namely national strategy today. Sun Wu attached great importance to strategies and tried hard to make military factors play an effective role in war and operational actions. While working out and carrying through his strategies, he paid great attention to the use of political and other artifices in order to achieve the ends of war. Although the Spring and Autumn Period which Sun Wu lived in did not see such complicated international political patterns as today's world sees, the contradictions between warlords and dukes at that time were also of various natures. To handle those acute and complicated contradictions, Sun Wu paid much attention to making use of military, political and other factors, which is an important component part of his outlook on war.

B

How Sun Wu utilized military factors in handling the relations between the dukes' states

In the Spring and Autumn Period, relations between dukes were substantially relations between states.

(a) The kernel of Sun Wu's military thoughts about handling political relations between states is the consideration of national fundamental interests, such as national safety, in making military operational decisions.

Sun Wu says, "War is life—and—death matters of the state, which needs serious studies." Thus, he, at the very beginning of his book, clearly points to the close relationship between war and national safety,

which must be handled with prudence.

" Never conduct war without gaining benefits; never deploy forces without winning victory; never enter into a war until there is danger. "

" Start actions in line with national interests; otherwise stop them. "

Those principles point out that military decision—makers and commanders must carefully assess war situations and work out their strategies and operational plans in accordance with their national interests, and their decisions must be made according to the overall military situation. They must always put their national interests and beneficial results of their operational actions before everything else.

(b) Putting political factors in the first place when making war policies is the essentials of Sun Wu's military thoughts about handling international political relations.

He points out, "To predict the possible outcome of a war, one must consider five things, and must compare various conditions of both parties to hostilities. The first thing is DAO; the second, TIAN, the third, DI, the fourth, JIANG; and the fifth, FA. "

"DAO is politics here, which guarantee that the masses of the people follow and support their king, so that the former will live or die for the latter without being afraid of any danger. "

The five things that Sun Wu mentioned are what a country should do to build a strong national defence. They are also what must be considered carefully when making military plans. Therefore Sun Wu put DAO (politics) before everything else, and he also says that "armed forces must be strengthened politically, strengthening their discipline, improving their fighting capability in order to win victories. " He means here that politics is the first important factor in making military decisions as well as one of the prerequisites for handling international political relations.

(c) Strengthening oneself and weakening the enemy by using diplomatic artifices is brilliant application of Sun Wu's military thoughts of utilizing stratagems.

The principle of "trying to enter into alliance with neighbouring states in borderland" is important one of Sun Wu's stratagems.

"Trying to keep friendly relations with neighbouring states in peace time; making effort to strengthen the existing friendship with neighbouring states in war time. "

"No country can establish friendly relations with its neighbouring countries without knowing about their stratagems". To enter into alliance with other countries, thus enabling you to conduct operations, you must try to know about the real intentions of your friends. Sun Wu points out in particular that "a state terrorized by military strength will not be able to enter into alliance with other states. " Deterrence can be applied to international politics.

C

The practical significance of the above mentioned thoughts of Sun Wu

Although our present world has seen a time of peace, development and detent, hegemony and policy of strength position are still important characteristics in dealing with international relations.

(a) Military strength is important conditions for a country to exist, it is also an important factor in

handling international relations ,and sometimes very decisive one. Material base on which a country depends its safety is the country's comprehensive strength, of which military strength is important component factor. A country should strengthen its national defence with the development of its national economy. A rich country without a strong national defence, or those wantonly engaging military aggressions, will never serve their national interests.

(b) Military deterrence is the final and the most powerful deterrence. To oppose the enemy, a country has to resort to every possible means that can deter the enemy. At the same time ,it must be well prepared against possible deterrence by others. Therefore maintaining proper military strength is indispensable to safeguarding one's independence as well as to opposing threats from the world hegemonies.

(c) At the present time, as the superpowers have seen a detent with their influences being weakening day by day, regional powers and blocs are increasing their influence. Countries in the world show a tendency to "apply diplomacy" to international affairs to develop and strengthen their friendly relations trying to enter into alliance with countries of common interests.

THE PROGRESS OF THE STUDIES ON "SUN TZU" BY THE MILITARY CONCERNED IN JAPAN

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I have researched the progress of the studies on "Sun Tzu" by the military concerned in Japan up to the present day from its introduction to Japan. Specifically, I have studied on what kind of change had been made in the progress of interpretation on "Sun Tzu" in each age.

In Japan, "Sun Tzu" was interpreted with the reflection of characteristics in those times. In the time of many wars (the Age of Civil Wars, the Meiji era), "Sun Tzu" tends to have been interpreted with a viewpoint of actual warfare for the purpose of winning the war and finishing up the war. In peace time (the Edo period, the contemporary period), "Sun Tzu" tends to have been interpreted with politics and strategy from the viewpoint of keeping peace. As the peace continued for a long time, they became spiritualism, tended to take no notice concerning the Deception on "Sun Tzu".

Introduction

I'd like to make a report on the studies on Sun Tzu in Japan, especially on the progress of the studies by the military concerned.

In Japan, the scholars and writers in Sun Tzu are largely classified into the men of Chinese philosophy, of Chinese literature and the military concerned. My report here is on the progress of the studies by the last group. Now, there are the practically military concerned on the one hand, such as heroic warriors during the Age of Civil Wars, and military officers and members of the Self-Defense Forces in the modern

ages; and the theoretically military concerned on the other, such as masters of the art of war and scholars of the military strategy: Both of which I will refer to. The history of the studies on Sun Tzu being an old one, which was introduced to Japan in the 8th century, I will focus on modern ages (after the 17th C.)

Before The Middle Ages (Before 15th C.)

(1) The first introduction of Sun Tzu's Art of War to Japan by Japanese. It is common knowledge that Sun Tzu was introduced to Japan with many Chinese culture by Kibi—no—Makibi who was a Japanese envoy to Tang Dynasty China in the 8th century. But, before that time, after the Battle of Hakusukinoe (A. D 663 in Korean Peninsula), a few masters of art of war had visited to Japan from Kudara in Korean Peninsula. Their art of war did not become clear, but it is considered that they were influenced by Chinese art of war.

(2) Kibi—no—Makibi (A. D 693—775) stayed in Tang (the Emperor Xuan Zong era) to study flags, which he took from "Sun Tzu", the Chapter of Maneuvering an Army. Three heroes of this ages who were Oda Nobunga, Toyotomi Hideyoshi, Tokugawa Ieyasu are not known us whether they studied it or not, but created tactics and strategy to agree with "Sun Tzu". In those days, they engaged in mass combats, and won victories with the reasonable consideration at the battlefield.

(3) The early and middle Edo period (in the 17~18th C.). As the education was promoted by Tokugawaleyasu, treasured "Sun Tzu" was opened to many scholars and was studied. Soon after the Age of Civil Wars, they interpreted it with actual warfare because they expected to win. On the other hand, they interpreted it as Confucianism morals and spirit because they wanted to keep peace in peace time.

(4) The latter Edo period (in the first half 19th C.). After the Opium War 1840, Japanese interested in European of war gradually, because of defence of Japan. For example, Suzuki Syunzan translated Three Arms Tactics. The shogunate not only bought weapons from Europe but also they invited foreign officers as instructors. Therefore, there appeared a few scholars who interpreted it with modern Western scientism, but many other scholars stayed in spiritualism. Then they could not make a match European Pragmatism.

(5) From the Meiji era (in the latter half 19th C.) until the early Showa era (before WW). In the early years of Meiji Restoration, heroic warriors from their younger days learned "Sun Tzu" as the first one in SEVEN BOOKS OF CHINESE MILITARY CLASSICS, and then the Western strategies. This seems to have greatly affected those warrior's success in the Sino—Japanese War and the Russo—Japanese War. However, since the Japanese Army come to be greatly affected by the German Army and the Japanese Navy by Mahan, the warriors and strategists who seriously studied "Sun Tzu" got less and less in number. From in the early Showa era, it appeared that there is a tendency to be ultranationalism and spiritualism, then "Sun Tzu" was hidden in the shadow.

(6) The contemporary period (after WW II). There were some scholars of military concerned who were shocked by defeated experience. In this circumstance, the scholars who studied "Sun Tzu" with viewpoint of military evaluated the multilateral and flexible side of "Sun Tzu". Satou Kenji, Okamura Masayuki and Kohno Syu are the ones who highly evaluated the thought of "Subdual without Egnagements" based on the self—examination of experience of the war and as the deterrent strategy of the nuclear age. And there is Ido Mitsuyuki who criticized the Western rationalism as a way of massacre in war.

Conclusion

"Sun Tzu" was interpreted with the reflection of characteristics in those times. In the time of many wars (the Age of Civil Wars, the Meijera), "Sun Tzu" tends to have been interpreted with a viewpoint of actual warfare for the purpose of winning the war and finishing up the war. In peace time (the Edo period, the contemporary period), "Sun Tzu" tends to have been interpreted with politics and strategy from the viewpoint of keeping peace. As the peace continued for a long time, they became spiritualism, tended to take no notice concerning the Deception on "Sun Tzu". Therefore, "Sun Tzu" is extremely useful not only in peace time but also in war time.

The importance of the thought of "Subdual without Engagements" and "co-existence" by Sun Tzu in the present day makes me feel eager to study further the Sun Wu's Art of War. I would go on my studies through "Sun Tzu Written on Bamboos" and other sources from this point of view.

SUN TZU'S INFLUENCE ON JAPANESE NAVY

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This paper deals with the influence of Sun Tzu's "Art of War" on the imperial Navy, how the imperial Navy applied Sun Tzu's, and why Sun Tzu's wisdom was ignored later. In the early meiji era (1867 — 1912), many political and military leaders of Japan, for example Kido Kouin, a key figure in the dismantling of feudalism, Ito Hirofumi, framer of the meiji constitution, and Yamagata Atitomo, father of the army, togo Heihachiro, victor of the battle of Tushima learned Sun Tzu's Art of War in small private military schools, and they had profound knowledge of Chinese classic masters. Admiral Sato Tetutaro and akiyama Saneyuki were key persons who established new naval strategy and tactics of the Meiji Navy. Sato accomplished mainly national and naval strategy and akiyama accomplished naval tactics and operation doctrines. As Sato and akiyama having fundamental knowledge of Japanese old art of war, which were based on Chinese old Masters, Sun Tzu(孙子), San Lueh(三略) and Wu Tzu(吴子), so their military doctrines were built on Sun Tzu's [不战而屈人之兵(Subdue the enemy without fighting)] fundamentally. In Meiji era, though Japanese Navy concentrated their efforts on adapting western weapons and tactics, but they never applied Clausewitz's theory: War is an act of force, and there are no logical limits to the application of that force. Later in the 1920s, by limitation of the Washington and London Naval Disarmament Treaty, Imperial Navy's war planners' efforts were concentrated on the tactics of "How to contend successfully against heavy odds", and Moral and spiritual factors were extremely stressed. Due to this reason and nationalistic mood, Japanese oldest combat doctrine "TOSENKYO(斗战经)" which denied Sun Tzu was taught in Naval War College. Thus Sun Tzu's resonable thinking was gradually ignored.

My second part of the paper examines Sun Tzu's influence on the Pacific War, especially Admiral Yamamoto's surprise attack on Hawaii and continuous offensive operation. Until immediately before the outbreak of war, most high ranking officers held that Japan was incapable of fighting a protracted war with America, because of the fundamental difference between the two countries in terms of military strength,

resources, production capability. But by German victory in Europe, military leaders calculated that a year or more would be needed for full American economic mobilization and that the Japanese defence perimeter in the West Pacific would be strong enough to deter or repel any attempts until Germany's victory, adapting interception attrition operation. It was Admiral Yamamoto Isoroku, Commander — in — Chief of the Combined Fleet, who adamantly opposed this operation. He insisted that the Navy should "deliver a fierce attack on and defeat the American main fleet at the outbreak of war to demoralize the navy and the people of America beyond remedy." Admiral Yamamoto thought that the inferior navy would stand no chance of winning a battle. If it put itself on the defensive from the beginning against the superior American Navy which would decide the timing and direction and come to fight us with its entire strength. Therefore, We must always deliver a fierce attack on American navy. Otherwise we cannot possibly establish ourselves in an invincible position. Many critics today point out Yamamoto's idea of surprise attack on Pearl Harbor and continuous offensive operations as being responsible for the unfavorable development of the war. They say that because of Yamamoto, the navy had to fight the battle of Midway without proper preparation and Japan got involved in the campaign on distant Guadalcanal, a campaign that was to sap the nation's strength with no gain. They maintain that the Japanese navy first should have secured a defensible economic sphere and refrained from risky offensive operations.

The historical process that brought Japan into the Pacific War includes many elements, such as the conclusion of the Tripartite Pact, Japan's fascination with Germany's overwhelming victories. If Japanese politico—military leaders applied Sun Tzu's word that [兵者国之大事 (War is of vital importance to the state)], they will consider more prudently and they will not count on Germany's victory. If Japanese leaders followed Sun Tzu's word [知彼知己者, 百战不殆 (If you knew the enemy and know yourself, you need not fear the result of a hundred battles)], Japan did not attack Pearl Harbor knowing German defeat in Stalingrad. They knew neither enemies nor themselves.

After the war, Sun tzu's "Art of War" was taught again in the National Defence Academy and at the Maritime Staff College (Naval War College). Sun Tzu's "Art of War" was again required reading for the students as in the Imperial Navy. But strictly speaking, understanding is very superficial and the level of understanding is just the same as the early 1920s, because the Maritime Self—Defense Forces is busy for adapting new weapons and tactics. But recently, because of low intensity conflict, guerilla war, terrorism, calculating restraint strategy, Sun Tzu's "Subdue enemy without fighting" is again considered and evaluated in Japanese military thinking. Until Second World War, Clausewitz's principles: "Absolute war, that is, absolute violence ending in the total destruction of one side by the other" dominated the world, and gave great disaster to the world. But in such an uncertain era, a value of Sun Tzu's logical ideal powers "Subdue enemy without fighting" has increased, and Sun Tzu's "Art of War" must become all the more important as an "Art of War of Twenty—One Century".

SUN TZU'S ART OF WAR IN COMPARISON WITH THE ANCIENT MILITARY BOOKS OF GREECE AND ROMAN EMPIRE

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The splendid military cultures of China on one hand and ancient Greece and Roman Empire on the other are well known in the long history of the world. Their military writings handed down from history can be regarded as gems in the treasury of military art. Seeking their similarities and dissimilarities in comparing THE ART OF WAR with HISTORIAE, HISTORY OF THE PELOPONESIAN WAR, ARABASIS, BELLUM GALLICUM, BELLUM CIVILE, THE STRATAGEMS, ARABASIS ALEXANDRI and DE RE MILITARI, the paper tries to explore the sources of the different ways along which the oriental and the occidental military theories develop.

The analysis of the similarities and dissimilarities between THE ART OF WAR and the military writings of ancient Greece and Roman Empire can be made in these aspects:

Firstly, with regard to the form of writing, THE ART OF WAR divides its contents into individual chapters according to the inner logic structure of the military conceptual system. They discuss the principles of "Caution in waging war", "Winning a complete victory", "Using direct and indirect forces", "Taking initiatives in hand" and "Manoeuvring" respectively and the specific tactics of "Attacking by fire" and "Using spies". HISTORIAE and other western military writings take the form of putting down historical events, reflecting ancient military thought and generalship in accordance with the established practice of summing up military experience in the age of ancient Greece and Roman Empire. Their form of literature confines itself to the narration style of the ordinary history books. For example, DE RE MILITARI, the most erudite work in the era of ancient Roman Empire, only deals with the limited contents of the selection of recruits, training, military discipline, army organization, strategy and tactics, attack on and defence of the fortified areas, etc. in spite of its exertion in writing within the framework of military doctrine. It did not, like THE ART OF WAR, develop into a full-fledged theoretical system.

Secondly, in the way of thinking, THE ART OF WAR adheres to the naive dialectics, taking a broad view of the war and strategic situations, summing up a general rule on basis of individual facts and events. While HISTORIAE and other ancient western military books stick to the spirits of rationalism. They gained, more or less, a correct understanding of some important military problems, but the blind faith in the mandate of heaven can be read between words and lines.

Thirdly, in the theoretical contents, both the ART OF WAR and ancient western military field. THE ART OF WAR pays more attention to the use of strategem, the abstraction of thought and the generalization of phenomenon, while the military writings in ancient Greece and the Roman Empire lays much emphasis upon the specific tactics and the methods of management of soldiers, etc. Perhaps, it is one of the rea-

sons why THE ART OF WAR remains a valuable reference book today, while most of military books in ancient Greece and the Roman Empire are out of date.

THE PARALLEL STUDY OF SUROVOE AND SUN—TZU'S MILITARY THINKING

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Suvorove (1730—1800), a brilliant Russian military leader and military theorist, made great contribution to the establishment of Russian military academic thinking. Under the guidance of his outstanding military book "THE SCIENCE OF VICTORY", he and his army had never been defeated within 40 years.

It is more than 2000 years from "THE SCIENCE OF VICTORY" to "THE ART OF WAR" composed by Sun Tzu. Although there is no direct contact between them, they have a common character, namely how to command the troops to win victory in battlefield.

This article is to present a contrast of the social historical environment between Suvorove and Sun Tzu with a method of parallel study; to contrast the foundational views between two men; and to contrast the theme, contents, and writing backgrounds of "THE SCIENCE OF VICTORY" and "THE ART OF WAR". Meanwhile the article is to study the common points and different points of these comparative subjects mentioned above, seeking their causes and rules. On these basis, we try to research and comment alternately these two great military thinkers.

RECONSTRUCTION OF AN ANCIENT ARRAY MODEL—AN HYPOTHESIS

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This article is an attempt to reconstruct the array model described in a fragment of the "SIMAFA" quoted in "TONG DIAN" encyclopedia (chapter 148), one of the few documents still extant enclosing information on the ancient "ji/zhong" organization such as the "SUNZI'S ART OF WAR" refers to. One of the main difficulties in the study of ancient strategic literature lies in the fact that an important part of its terminology is linked with technical devices and organization systems, that were probably transmitted in the form

of "Trade dodges" and are now long lost, as the warfare in which they used to play a key—role was progressively abandoned.

To set back such essential terms as "ji/zheng" or "Wu xing (shapeless)" in the context of the conceptual surrounding of "SUNZI'S ART OF WAR", an inquiry into the specific ring of mathematics linked with array organization appears to be quite necessary.

Unfortunately all the charts describing the arrangement of ancient arrays, including the nine rolls attached to the "WU SUNZI BINGFA IN 82 CHAPTERS" quoted in "HANSHU BIBLIOGRAPHY" are missing.

A few testimonies of these ancient charts have been recorded in written form, among which one finds the above mentioned fragment. This text gives the following data dealing with the organization of a camp array. An army is composed of 12,500 men or 250 companies of 50 men each. Among them, 75 companies are "ji troops".

There is also a second stage of "ji troops".

Their number is not given.

A central camp is organized with a security zone of 6,000 feet.

There are four squares of 300×300 paces ("li"), one at each side of the central camp, and three 100×100 paces squares ("jing") inside the camp. 180 paces left over are used as gate (s) for the use of "woji" troops. As for the rest of the army, the 175 companies left, are arranged in 8 arrays, among which 6 are composed of 1,094 men.

Although they seem to be precise these indications give a succession of separated and even contradictory data, with no obvious link with one another. A fact that should lead to assume that, either the text quoted in "TONG DIAN" is random or lacunary, or that it should be read as an enigmatic predicate, concealing a complex arrangement under misleading terms.

An hypothesis will be presented in this article to solve this riddle and throw a light upon the rich contributions of China in the field of mathematics.

THE ART OF WAR AND REGIONAL CONFLICTS

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To study similarities between the basic rules of Sun Tzu's Art of War and those of the current regional conflicts are of great significance to the development of the theory of regional warfare.

On the strategic level, a nation must be cautious in waging war, pay attention to making alliance with its neighbouring states on the one hand and disrupt enemy's alliance on the other. Sun Tzu said: "One should act expediently in accordance with what is advantageous in field and so meet any exigency." Decision

concerning regional conflict must be circumpect and comprehensive, with very clear strategic targets. The value of these targets must be weighed carefully to ensure the gain will outweigh the risk and cost. Regional conflicts are apparently constrained and influenced by the political and diplomatic factors. To some extent, the intensity of military operations is closely connected with the developments of political and diplomatic struggles. Before and during the conflict, frequent and clandestine struggles occur on the political and diplomatic scenes. And the conflicts often end with political settlements. Sun Tzu's emphasis on military strength has its special significance today. "To disrupt enemy's alliance" is an important component of Sun Tzu's concept of strategy of complete victory. He attached great importance to strategic deterrence on basis of military strength and said: "It overawes the enemy and prevents his allies from joining him."

With regard to the guiding principles and the command of military operations, time, space and man like suddenness, rapidity and flexibility, have played an increasingly important part in war, which testifies the correctness of Sun Tzu's thought. Sun Tzu said: "Speed is the essence of war," and a great many examples of regional conflicts have demonstrated all parties concerned set great store by the time factor and strive for a quick victory; Sun Tzu said: "There has never been a case in which a prolonged war has benefited a country," and American invasion of Panama was a recent example which drew lessons from the past long protracted Vietnam war; Sun Tzu said: "Conformation of the ground is of great assistance in the military operations." This is a universal truth that troops neglect the terrain conditions in regional conflict would be hampered in their movements and even suffer defeat. The F-117A "Stealth" fighter-bomber employed by the U. S. A. F. in penetrating Panama's territory was an art-of-the-state development of sudden attacks in regional warfare.

Modern warfare sets forth higher standards for commanding generals. Sun Tzu prescribed five requirements of a commanding general: wisdom, sincerity, benevolence, courage and strictness. Now, in regional conflicts, these requirements are still indispensable qualities the commander must possess. Today, wisdom means the commanding general must outwit the enemy; sincerity signifies he sticks to implementing the limited objectives of the regional conflict; benevolence represents his compassionate and humanitarian attitude towards his men, "Regarding his men as infants," so there will be cohesiveness in rank and file; courage means his bold decision-making ability at junctures in the regional conflict; and strictness signifies his adherence to the doctrine in army management. With these qualifications he can control and make full use of all information in regional conflict postures, and the initiatives are in his hand.

MODERN MEANINGS OF SUN TZU'S ART OF WAR: ITS THEORY AND PRACTICE ON LIMITED WAR

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In Asian countries we are fond of citing a classic phraseology "Wengü er zhixin," which means to find

clear strategic targets. The new perspectives and methods on the future by looking into past. In this light, it is worth noting that Sun Tzu's Art of War the magnum opus written 2,500 years ago by Sunwu of Qi in the Warring Period, is still widely recognized as a valuable source book for the development of modern military science.

The military value of Sun Tzu's Art of War lies in the fact that it is a comprehensive system of military thoughts which includes both all-out and limited war. In terms of general military theory, there are two kinds of war: one is a war with limited purposes and the other with unlimited purposes. The former is represented by a British military theorist, Liddel Hart (1895—1970) and the latter by a German military theorist, Clausewitz (1780—1831). To repeat, it is the distinctive characteristic of Sun Tzu to include both theories of war.

In particular, Sun Tzu's thoughts on military tactics duly emphasize the short duration of war, a characteristic of limited war in modern times. His statements such as "To win a war is important, but it is no good to have it delayed" and "When a war is delayed, weapons become dull and troops dispirited" can all be interpreted as an emphasis on limited war.

According to Robert Osgood, limited war can be defined as a military conflict in which one or both combatants intentionally pursue the goal short of total victory, or use less than full military means, or both. It is, in other words, a limitation of warfare in terms of its goals, duration and place.

Limited war can be regarded as a direct reaction to both World Wars. In short, the devastation of the First and Second Wars, especially the invention of atom bomb in the latter, has renewed a sobering need to limit a total warfare, which can be neither justified politically nor acceptable morally.

In conclusion, as more research is conducted in the field of limited war, the true value of Sun Tzu's Art of War will be unearthed so as to illuminate better hidden meanings of limited war.

THE SYSTEM AND OPERATION RESEARCH THINKING OF SUN TZU

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In the twentieth century, the rise of modern scientific methods group is regarded as one of the greatest scientific and technical achievements of the human civilization. At present, people all over the world generally consider that the core of this group is system method. Many famous scientists have demonstrated that the foundation and application of system science have far-reaching effects on the living and thinking ways of human society. In the meantime, they are also becoming the sign of our times. When people appraise the influences of the system method on mankind, they are astonished at finding that the mankind began to recognize the system phenomenon not recently but in ancient times. While in Europe, the seeds of system science were Aristotle's ancient system views, in the east, The Art of War by Sun Tzu presented the most significant system views. Until now, these naive system views and operation thoughts are still regarded as

the basic principles of the modern system science and operation research. The Art of War seems very sketchy because of the limitations of history. However, The Art of War has abundant views about systems and operations. These views still enlighten the thinking of the people nowadays.

In the paper, the author will discuss from different angles, system and operation research thinking of Sun Tzu and its historical background and the practical significance.

The main arguments of the author are as follows:

(1) System thinking of Sun Tzu

He thought that the war was a subsystem in large human society system. The political, military, diplomatical and economic aspects are four main factors which be considered synthetical. He analysed the rule of war as a whole.

He tried to defeat the enemy by attacking his strategy, and subdue them without fighting. He stood for winning by stratagem, rather than by force.

He considered that holding an army should strike a few with a large number of forces and concentrate powerful superior military strength on a fraction of enemy.

He also said: "There are in war no constant conditions, as water has no constant form. Thus, it is possible to gain the victory by modifying his tactics in accordance with the enemy situation may be said to be like a vine".

(2) Operation research thinking of Sun Tzu

Sun Tzu was a great military philosopher in ancient China. Proceeding from strategy, tactics, weapons, supply and philosophy, he made a thorough research on the war annals of the pre-Spring and Autumn Period, from which he drew deep lessons of philosophical nature. In writing The Art of War, a well-known military philosophic work, he actually played the mental exercise to visualize the whole course of a conflict in various confrontation situations. He was the first great man in the world's military history to apply the idea and method of war game to war research.

He also used war gaming with human participants in the fifth century B. C. in demonstrating the concepts of his Art of War to a king, using the women of the court as 'pieces'.

The two points mentioned above are my personal understanding of Sun Tzu's system and operation research thinking, and they do not cover all the contents of Sun Tzu's system and operation research thinking; perhaps my understanding leaves something to be desired and I wish to discuss it further with my friends. The author hopes that this paper will be of some help to the promotion of the research of The Art of War.

ON SUN TZU'S CONCEPT OF STRATEGIC GEOGRAPHY

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The strategic geography (it is called the geographical strategy in the West) is a theory to study the relationship between war and geography.

relationship between strategies and geographical environments. The theories and practice of the strategic geography already existed in the ancient times in China as well as in the West. Although Sun Tzu did not write a chapter exclusively addressing the strategic geography in his book — The Art of War which have touched on the subject from various angles. We think that Sun Tzu's concept of strategic geography consists of four aspects:

The first is the geographical analysis in strategic decisions. A strategic decision includes two main points — the determination of strategic objectives and the analytic comparison of strategic forces. Sun Tzu regarded the analysis of a nation's geographical environment as an important startpoint and a basic step for war planning and the determination of strategic objectives. Having decided on strategic objectives, he went on to take geographical conditions as a significant measure to compare the strengths of the opposing sides. All of this, in his opinion, could be considered a cornerstone of strategic guidance, which still has a tremendous impact on the strategic decisions of all the countries today.

The second is the geographical analysis in warfighting. Sun Tzu gave a detailed description and examination, viewed from the geographic space, of the relationship among force deployment, force dispersion and concentration, offensive and defensive axes, communication distances, etc. and the outcome of war. Some of the basic thoughts articulated in his book can still be a guide to conduct modern wars.

The third is concerned with the division of the strategic theatres. Sun Tzu differentiated several strategic theatres according to the battle areas locations of the interstate conflicts and the geographical connections of warring states, while putting forward a few principles of the countermeasures on the basis of analyzing the strategic significance of everyone trying hard to seize the hubs of communications. Those principles contained in the book are closest to the doctrine of the modern strategic geography.

The fourth is to deal with the dialectical understanding of the troops — terrain relationship in warfighting. Although Sun Tzu demonstrated and proved repeatedly the importance of geographical conditions in operations and strategic decisions, he did not go to extremes, but stressed that while geographical conditions could merely provide some advantages to the forces full utilization of geographical advantages required the seizure of strategic initiatives.

CONCEPT OF WAR MOBILIZATION IN THE ART OF WAR

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War consists of mobilization and fighting, both of them are of vital importance to the state. They must be treated with utmost care and prudence. The Art of War makes a full exposition of these and points out: "If not in the interests of the state, do not act. If you are not sure of success, do not use troops. If You are not in danger, do not fight a battle."

War mobilization must be carried out in precaution without peril. Sun Tzu said: "It is a doctrine of war that we must not rely on the likelihood of the enemy not coming, but on our own readiness to meet

him; not on the chance of his not attacking, but on the fact that we have made our position invincible". The preparedness of war mobilization is also a continuous process, in which one's own strength can be accumulated step by step to a point "Like the bursting of pent-up waters into a chasm of a thousand fathoms deep."

Just as in strategic planning, war mobilization attention was paid to "Calculations at temple council". For example, it was a calculation of tooth-to-tail ratio when one hundred thousand men were mobilized for a distant war, seven hundred thousand farmhouses would be abandoned. Long distant transportation was a major cause leading to poverty. seven-tenths of people's wealth and six-tenths of national budget were drained away. This was a "Calculation at temple council" on consequence which might ensue from war mobilization.

"No second levy of conscripts in employing troops" and "to make up for provisions relying on the enemy" are two important principles for war mobilization. The former points to the manpower mobilization and was compatible with ancient warfare. The latter relates to the provisions mobilization in a primitive form of "Sustaining war activities by war spoils." To a certain extent their principle works even today.

The essence of concept of war mobilization in *The Art of War* demands that preparations be made in many fields. For war strength is a combination of all superior forces, mobilization of all war potentials must be made in many ways. For example, improvement of political rule "Causes the people to be in complete accord with their sovereign" and "animates the ranks and files by the same spirit." Economic development releases the powerful potentials to support war. In diplomatic affairs, more attention is paid to the relations with other states and a lot of effective measures is taken to win them over. In military affairs, arms and arsenals must be strengthened, the general be carefully selected, the army be managed rigidly and leniently and soldiers be trained strictly.

A reasonable measurement for the demands of war mobilization should also be upheld. If tenets of *The Art of War*: "First make yourselves invincible", "Be capable both of protecting yourselves and of gaining a complete victory," and "win every battle" can be fulfilled simultaneously, it may be said that the basic demand of war mobilization is satisfied. "Subduing the enemy without fighting" is not only a guiding principle for conduct of war, but also the maximum demand of war mobilization. Moreover, there are many rules for "Attacking enemy's army", such as "When ten to the enemy's one, surround him. When five times his strength, attack him. If double his strength, engage him. If equally matched, be capable of dividing him. If less in number, be capable of defending yourself. And if in all respects unfavourable, be capable of eluding him." All these can produce mandatory effect on war mobilization.

AN OUTLOOK OF WAR BENEFIT ON SUN TZU'S ART OF WAR

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War is a special means to gain benefits by cruel costs. Military strategists, ancient and modern, Chi-

ese and foreign, all regard the pursuit of war benefits and the ultimate aim of planning and directing wars. Sun Tzu's Art of war was the first military work in the world with a complete and correct benefit outlook, characteristic of great aim, delicate planning, far-sighted consideration and definite strategy, and embodying the extraordinary wisdom of this great strategist. Its scientific values are more manifest in the present competitive era of "Struggling for existence by benefit". The paper attempts to investigate contents and arrangements of ideas of war benefit outlook on Sun Tzu's Art of War, extending its essence.

Main points of the paper are as follows:

———"Calculating before the war" to plan for overall benefit. The book probes, from the highest level concerning life and death of a state, into gains and losses of a war to a state, plans and estimates the overall benefit of a war and first steps onto the ladders of grand strategy. The essential contents of the book plan for overall benefit are that "One must compare the various conditions of the antagonistic sides in terms of five constant factors to make assessment of the outcome of a war". Sun Tzu points out that "With many scores, one can win; with few scores, one cannot. By examining the situation through these aspects, one can foresee who is likely to win or lose." Scores are not only the prerequisites of winning or losing but the mark of benefits.

———"Subduing enemy without fighting" in pursuit of highest benefits. People usually respect and admire victorious generals and regard the cost-effectiveness ratio of the war as a constant thinking that it's acceptable to win even at the greatest cost. The book, however, pushes the cost-effectiveness ratio extremely to the ideal state of things ("the supreme excellence") that is, "to take all under heaven intact" without paying any cost (to gain complete victory without fighting), which is astonishing and admirable. The nature of subduing enemy without fighting is to defeat enemy by stratagems. Compared with the means of defeating enemy by force, the cost-effectiveness ratio differs considerably though both can reach the aim of subduing enemy. Sun Tzu's concept of subduing enemy without fighting is multi-tiered: "Taking the enemy's state whole and intact, capturing the enemy's army entire and taking intact a battalion, a company or a five-man squad". This is the acme of Sun Tzu's war benefit outlook. Although complete victory can be gained in whole, it can be got in part to maximize the cost-effectiveness ratio.

———"Conquering an enemy easily conquered" to strive for real combat benefit. Sun Tzu is a realistic strategist, the principles of his art of war are based on gaining best benefit in the real war. Gaining the greatest war benefit with the least cost is the outlook on cost-effectiveness of conquering an enemy easily conquered. A series of his operational principles all reflect this essential concept. It is most valuable that his principles are all based upon correct calculations. He precisely calculated consumptions of the war and support capability in chapters of "Waging War", "Disposition of Military Strength" and "Use of Spies", reflecting his extreme pursuit of the benefit.

———"Becoming stronger in the course of defeating the enemy" to get compensating benefit. The consumptions of supplies are great both in ancient and modern wars. Taking into consideration the fact that in carrying out operations in other states, a distant transportation is needed to support the army far from homeland, the book puts forward the important principles of "Carrying military supplies from the homeland and making up for the provisions relying on the enemy", "The captured chariots mixed with ours and sent by our men. The prisoners of war should be kindly treated and kept" and "Plunder fertile country to supply your army with plentiful food", that is, to improve benefit by seizing enemy's supplies. It is the

origin of later concept of supporting the war with benefits of the war.

ELEMENTARY STUDY OF BO YI IN THE ART OF WAR

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Bo Yi is a theory on the confrontation of human being. It can be applied to the practice of guiding confrontation of human being. It originated from the war theory.

The Art of war contains a great deal of Bo Yi. It is characterized by oriental philosophy, utilitarian and elementary knowledge. Its three principles containing Bo Yi are: 1) The principle of a complete victory. It attains an ideal realm of conquering the enemy without resorting to war. 2) The principle of measure of success before challenging the enemy: First preserve yourself secure against defeat, then fight for the final victory. 3) The principle of working out plans for victory. It concentrates on adopting different strategies according to different conditions.

The ten guiding principles of Bo Yi in details are: 1) The principle of possessing beforehand information regarding enemy as much as possible. 2) The principle of concentrating our force and dispersing enemy forces. 3) The principle of attacking the weak. 4) The principle of being active. 5) The principle of being flexible. 6) The principle of seeking victory from an opportune situation. 7) The principle of making the enemy leave their position by holding out baits so that our men could ambush them. 8) The principle of achieving quick success honestly. Once a favourable opportunity occurs, attacks must be launched promptly in full preparation. 9) The principle of defeating one's opponent by a surprise move. 10) The principle of making full use of terrain.

ON THE UNITY OF BENEVOLENCE AND DECEPTION CONCEALED IN THE ART OF WAR

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Benevolence is one of The leading concepts of The Art of War on war outlook, strategic thinking and army management. It expounds the serious consequences which ensue from war and advocates cautious hostilities. It suggests that the best policy to solve contradiction between antagonistic forces is "To subdue the enemy without fighting", i. e. by means of using stratagem and through diplomatic negotiations. When war is unavoidable, maximum efforts should be done "To capture the enemy's army" and "To take into

battalion, a company or a five-man squad." With regard to the quality of a commander-in-chief, it demands him "To advance without counting fame and retreat without fearing disgrace, his only thought is to protect his country and do good service for his sovereign." In respect of army management, it stresses commander's affectionate love of his men including good treatment of prisoners of war and points out that "he who is not humane cannot use spies."

The benevolence concept upheld by The Art of War is different from that respected by some Confucianist scholars who think benevolence is ethical and humane "Lole" or "Sympathy" under nonbelligerent circumstances. Sun Tzu's concept demands not only a speedy victory, but also the least possible cost and casualties on both sides, so what Sun Tzu advocated is the benevolence that suits the need of war conditions. He treats "Benevolence" and "Victory" as means and end. When he carries out benevolence to gain victory, he is reasonable, calm, determined without any emotional passion.

The deception concept of The Art of War only applies to the fighting against enemy. In the management of army, it demands that the commander-in-chief be sincere, and "In training soldiers commanders are habitually enforced", and "Enhancing moral influence to preserve the law". The five constant elements of "Moral influence", "Weather", "Terrain", "Commander" and "Doctrine" are the mainstream of The Art of War. At the top of these elements, "Moral influence" plays the leading role in the whole process, while the "Deception" concept is only a part of Sun Tzu's thought. Therefore, it is harmful to comment his concept of deception vaguely and indiscriminately without looking into its prerequisites.

The author of The Art of War critically drew lessons from his predecessors and contemporaries concerning benevolence and deception, and on the basis of the reasonable core of these two antagonistic and unified concepts, created a guiding principle of "Sincerity and wisdom" for conduct of war, which exerted a far-reaching influence on posterity.

SUN WU AS THE FOUNDER OF CHINESE PRAXEOLGY, PHILOSOPHY OF STRUGGLE AND SCIENCE

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Sun Wu's importance in the history of Chinese thought is in general underestimated both by Chinese and Western scholars, since his treatise has been regarded as a specifically military text, and not enough attention has been given to methodology which it expounds and philosophical concepts elaborated therein.

The true importance of his text is related to two aspects.

1) It can be considered the first scientific text in China, promoting a rational analysis of facts as the basis of knowledge and inductive reasoning as the logical procedure, although his work concerns the social sciences rather than the natural sciences which determined the development of science in the West. This part of his heritage has remained obscure, because the successive course of Chinese thought was dominated

by ethics and speculation.

2) What was appreciated and widely diffused was his theory of action, since his analysis of struggle was carried out in such a highly abstract manner that it could be applied to every social action in a situation of conflicting interests.

Thus Sun Wu can be considered the founder of unique Philosophy of Struggle and of Chinese praxeology. When one analyses his theory from this point of view one finds remarkable similarities between his concepts and theories current in the 20th century in the West, such as cybernetics, behaviourism, theory of games, and so on. For a text that was written more than two thousand years ago the concepts elaborated there appear surprisingly "Modern", and this explains the growing interest it is arousing in China and abroad.

In order to appreciate its real significance in China one has to distinguish two spheres of thought. One comprises the philosophical and theoretical works written by and addressed to scholars. In this theoretical sphere his concepts had a marginal role, since they were beyond the scope of interest or even contradiction the "Noble truths". Only his concepts concerning strategy and war have been appreciated. Thus in works concerning history of Chinese philosophy Sun Wu's concepts usually are not mentioned, although they should be included as a forgotten chapter of ancient thought.

There is however another sphere of thought, of interest not to a historian of ideas but to an anthropologist. This embraces the ideas which are commonly known and which shape the behaviour and thinking of the people belonging to one culture. From this anthropological point of view Sun Wu's theory of struggle was of crucial importance in shaping the Chinese mind. When one analyses the literary works which reflect popular modes of thinking and acting, one can easily identify that there were the four most important schools of thought as being Confucianism, Taoism, Buddhism and the School of Strategy (bing jia). This can be seen, for instance, in *A Dream of Red Mansions*.

One can find there the noble personages who are influenced mostly by Confucian and Buddhist ethics and norms, others with a Taoist mentality (both in the "artistic" and religious forms), and those less noble who aim at obtaining certain profits or influence, and who apply the Strategic concepts. There are, of course, many cases when the same person uses the principles of the "noble schools" in one social context and those of the Strategists in another. It is remarkable that these concepts are clearly identified and linked to Sun Wu, Wu Qi or the commonly known stratagems referred by name.

The wide popularity of the Strategic concepts is certainly much less related to direct study of Sun Wu's treatise than to reading of the popular novels on military topics such as *The Tale of the Three Kingdoms*, *The Water Margins* and others, to the popularity of dramas based on them and to the proverbs coined from various texts. For this reason even an illiterate Chinese could know dozens of fundamental principles and act according to them. Therefore a true understanding of Chinese social and political life, and Chinese thought in general, requires knowledge not only of the Confucian Right Way but also of the Way of Deception and praxeology promoted by Sun Wu.

PHILOSOPHIC THINKING OF THE FOURTH CHAPTER OF THE ART OF WAR

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"Disposition of military strength" is an important category of ancient Chinese military theory. "Strength or weakness depends on disposition," Sun Tzu said. Here "disposition" means what we say "military strength" today. It is the main idea of the chapter of "disposition of military strength" to elaborate the strength and weakness of forces. "Disposition of military strength" is the build up of forces, the accumulation of energy and the material base of war potentials. Therefore, the chapter cannot be misunderstood as the appearance or shape of military actions in contradiction of Sun Tzu's original intention.

The meaning of "First making oneself invincible and awaiting the enemy's moment of vulnerability" is two-fold, that is, the superiority of total strength in general and fighting ability in particular. Only when one's strength in total reaches a point of invincibility can his enemy be defeated. However, there is no absolute balance of strength in actual fighting, notwithstanding one's efforts to "First make oneself invincible" in general. The case of equally-matched strength in battle is very rare. Hence, in actual fighting, a question remains to be solved by the commander to "First make himself invincible and await the enemy's moment of vulnerability." The chapter elaborates this question quite to the point.

Sun Tzu did not content himself with "triumph in battle". He took an analytic approach to "Winning a victory" by differentiating between what is "To foresee a victory" and what is "To triumph in battle". He said "To foresee a victory" is the acme of skill, while "To triumph in battle" is not. He further pointed out that "To foresee a victory", one must be perceptive of minutest detail without the slightest prejudice; "To triumph in battle", one must not seek "Reputation for wisdom nor merit for valour," but "Excels in winning with ease."

It is Sun Tzu's conclusion that "The skilful commander takes up a position in which he cannot be defeated and misses no moment for defeating the enemy."

ON POSTURE OF ARMY

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The "posture" by Sun Tzu's Art of War has many meanings. Essentially, it refers to the reasonable build-up, appropriate deployment and full exploitation of the military strength, and is shown as a

favourable situation and powerful impact against the enemy.

As the core of Sun Tzu's military doctrines, the concept of posture contains as many as 24 pairs of basic contradictions: subject and object, offence and defence, strength and weakness, extraordinary force and normal force, void and actuality, static and dynamic, separation and aggregation, hardness and softness etc. Also it has a very close relation with such concepts as disposition (the basis of a combat posture), opportunity (seizing of the opportunity to fight), time (timing of the application of tactics), capacity (fighting capacity), measurement (the threshold between the quality and quantity of the military strength), strategy (military strategy) and power (military strength).

Posture and disposition are a dialectical unity in contradiction with each other. Posture is the appearance of disposition and disposition is the substance of posture. Static posture resides in disposition, while when disposition changes from static state to dynamic one, it becomes posture. The better prepared the disposition is, the greater momentum the posture gains, and the greater momentum the posture possesses, the stronger the disposition is. This profound philosophic theory lies in the relationship between posture and disposition and explains almost all the arts of war both of China and of other nations of the world, of ancient times and of modern times as well.

The main principles of Sun Tzu's posture of Army are as follows:

Examine the situation: that is to judge the situation of a war accurately by way of observation, measurement, identification and prediction which is the premise for making strategies and decisions.

Scheme for the situation: it is the art of how to build up military strength, how to seek for the superiority over the enemy, and how to avail of the advantageous conditions of terrain and weather and to make proper deployment;

Create the situation: that is to create a favourable situation with subjective efforts. There are 5 ways of doing so: (1) to make full use of the existing favorable situation in winning a victory; (2) to override the enemy with high morale; (3) to make an empty show of strength to deceive the enemy; (4) to adapt to the changing situation; and (5) to take terrain advantages;

Exploit the situation: that is to make skilful use of your superiority and attack the enemy's weak point to deflate his morale and turn his advantages into disadvantages. The key point is "To guide your military action according to the changing situation".

THREE TOPICS CONCERNING THE CHAPTER OF STRATEGIC ASSESSMENTS IN THE ART OF WAR

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To understand the military thinking of Sun Tzu more accurately, three personal viewpoints are forwarded for discussion.

1. The Original Meaning of the First Sentence of the Work

I hold that the first sentence of the work "Military action is important to the nation — it is the ground of death and life, the path of survival and destruction, so it is imperative to examine it" means that war is the affairs of state. It concerns economy and politics. The leaders of the country and the armed forces must sense it. Following are the arguments:

a. Scientific ways of doing things better are quoted from *The Strategic Problems of the Chinese Revolutionary War* written by Mao Zedong and characteristics of studying wars are quoted from *On War* written by Clausewitz.

b. Since the ancient Chinese strategists always integrated military affairs with politics and economy, Sun Tzu's thinking couldn't be an exception.

c. The Chinese words 地 (the ground) and 道 (the path) must have substantial meanings instead of general meanings, because Sun Tzu was succinct in wording.

I think that the correct understanding of this sentence is the key to the accurate comprehension of Sun Tzu's military thinking.

2. Differences between the Chinese Words 将 (jiāng) and 将 (jiàng)

There are altogether 48 Chinese words 将 in Sun Tzu's work. In order to understand the original meaning of the work correctly, it is quite important to distinguish whether they were used as verbs (meaning "to command") or nouns (meaning "the general") or adverbs (meaning "shall", "will") in different language circumstances. Especially in the Chapter of Nine Grounds, the Chinese words 将军之事 don't mean "the business of the general", but mean "to command the troops". Only to distinguish the parts of speech of 将 can we avoid any misunderstanding.

3. The Vital Importance of the Calculation

Sun Tzu stressed highly the calculation which is the basis of scheming and planning. Since the Bamboo Slip used the Chinese word 筭 instead of 算 and the two words had different meanings: 筭 meant "the bargaining counters" while 算 meant "to calculate" or "to figure", I think that the implication of "calculating at the Headquarters" should be explored again.

At the end of this paper, I want to emphasize the importance of the quantitative analysis in the research of military theory.

A PHILOLOGICAL INQUIRY ON THE CHARACTER JI OF THE CHAPTER "JI" AND THE CHARACTER GUI OF THE TERM GUIDAO IN THE BOOK SUN TZU

J. H. Huang, M. A. U. S. A.

Ji and gui are not only a pair of extremely important concepts in Sun Tzu, but also include some valuable methods for deciding situations. However, concepts such as these have become unclear, and the meth-

ods have been lost as well. The reason for this is an incorrect understanding of these characters' meanings. This paper is divided into four sections and will follow the footsteps of those scholars who have become aware of this problem.

The introduction will present the motive for this paper and its importance.

In the second part, the search for *ji*'s meaning, the primary method lies in employing Sun Tzu's related descriptions, examples of the application of *ji* in Sun Tzu, a consideration of the *Shijia zhu* (Ten Commentaries), and the different explanations provided by modern scholars. We will also look at how Zhang Liang of the Han Dynasty exercised *ji*.

The third part, an examination into the definition of *Qui*, will include a study of related descriptions in Sun Tzu, and also survey this question from four angles: a) the condemnation of *guidao* by Song Confucian scholars, Huang Jen's rebuttal based on logic, and Wang Yangming's rejoinder based on strategy; b) the insufficient understanding by later generations of Cao Cao's commentary and "bing yi zha (or, cu) li"; c) the discussions of strategy in Sun Bin *bingfa*, Xunzi, and Han Fei which show that the meaning of *gui* has been lost; and d) the growing dissatisfaction in modern scholars with previous definitions of *gui*. From these various aspects we will arrive at the proper meaning of *gui*. Also, we will discuss the relationship between *ji* and *gui*.

In the conclusion we will use the aforementioned points to discuss the ancient ways of using *ji* and *gui* within a military studies framework, and then submit suggestions on the proper perspective for determining character meaning in Sun Tzu.

THE CHAPTER STRATAGEM ADVOCATES WISDOM

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Directing military operations successfully depends on wisdom, and winning victory results from stratagem. The chapter Stratagem presents the argument that under given conditions victory can be won by outwitting the enemy. That is the main thread of thought which runs through all the thirteen chapters.

1. In essence stratagem is the embodiment of man's wisdom.

War means that two sides compete intellectually on the basis of given materials. Whether a war is won or lost relies on the tests of wits and strength. Stratagem acts as the medium of the tests. Analysing in detail strategy research and subjective war—directing ability. The chapter stresses that in essence stratagem is wisdom and that the key to "foreseeing victory" is to outwit the enemy.

2. The acquirement of "stratagem is a process of combining man's wits with abilities.

How should commanders put wisdom to use and devise stratagem? The chapter systematically expounds all the basic links in devising stratagem, and is characterized by a distinct naive materialistic theory of knowledge.

3. Excellent stratagem comes from sharp intelligence.

A commander's intelligence directly determines his stratagem, which is closely associated with the result of a war. The chapter brings to light for the first time the fact that in directing war, "deception" is a characteristic of the battle of wits. It also shows that before and during operations, there are connections, differences and mutual exclusion on the minds of commanders of both sides with the result that intellectual confrontation is brought about and the war is conditioned.

A NEW POINT OF VIEW ABOUT SUN TZU'S CONCEPT OF "FORAGING ON THE ENEMY"

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The concept of "Foraging on the enemy" marked a theoretical and practical breakthrough of military logistics in ancient China. Why no one but Sun Tzu put forward this concept? There were two decisive reasons: first, the evolution of the mode of military operation at the ending stage of the Spring and Autumn period; second, the unique tactical thought of Sun Tzu himself.

The predominant mode of operation in wars from Xia dynasty to the Spring and Autumn period was Chariot warfare which was characterized by lack of mobility and flexibility. Armies waging war could not leave the road. Their movement speed was very low, and the duration of campaigns very short. It was relatively easy to feed the army with supplies carried by warriors and trains, and delivered by rear depots. At the ending stage of the Spring and Autumn period, infantry warfare began to replace chariot warfare. Particularly in Wu, Chu and other southern states where the terrain was difficult for chariots, extensive manoeuvre of infantries, their long-distance drive and rapid pursuit became common occurrences. In such circumstances the food supply of combat troops gradually turned into a really difficult problem. In the chapter of "battle tactics" of his Art of War Sun Tzu described a dilemma of tactical manoeuvring which in essence reflected the contradiction between the new mode of operation and the old logistic support system. At this historic moment emerged the new supply method of "Foraging on the enemy".

One of the characteristics of Sun Tzu's tactical thought was the emphasis on manoeuvre speed. His concept of "Shi" (势) should be elucidated as "momentum" which is the function of mass and speed. The expedition of Wu army into Chu state in 506 BC, directed by Sun Tzu himself, was an optimum example of his theory of "momentum". In this expedition the Wu army fought five battles and advanced nearly five hundred kilometers in ten days. Such a long-distance and high-speed drive could be performed at that time only by light infantries without cumbersome logistic tail, and the only feasible method of food supply of the offensive troops was foraging on the enemy.

To break with the outdated conventions and to create new logistic support method in accordance with the change of the mode of operation, this is the main point that Sun Tzu's concept of "Foraging on the enemy" can teach us.

ON SUNZI'S MILITARY—ECONOMICAL THOUGHT

FANG LIZHONG

TANG WUWEN

Economical conditions are the material basis on which military activities are conducted. The economic factor in military activities is usually referred as military economy. Sunzi's *Art of War* contains a number of profound theoretical statements relating to military economy, which have brought to light some economic laws governing military activities. Sunzi's military—economic thought is an important thread running through his *Art of War*, and plays an important role in the book.

This thesis, by means of analyzing the weapons and equipments, the decrees and regulations of that time, and elucidating the text of Sunzi's *Art of War*, explores his military—economic thought. The main points are as follows.

- — — The main intention of "temple calculations" is to calculate economic issues.
- — — Economic strength is the base of "energy".
- — — A master of "employing troops" must be at the same time a master of employing economic resources.
- — — The most important premise of "safety or ruin" consists of economic conditions.
- — — Whether "to face or to be with the back towards" a region depends upon its economic environment.
- — — One of the aims of "employing spies" is to investigate the enemy's economic status.

SUN TZU AND THE THEORY OF GAMES IN INTERNATIONAL CONFLICT

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Contemporary political—economic research in the United States and Europe makes heavy use of a branch of decision theory called Game Theory, which seeks to specify in a mathematically rigorous way (1) a formal structure for representing the strategic character of individual decision making when the consequences of one's actions depend on the actions of other people and (2) a generalized set of hypotheses about the actions people will take or ought to take in strategic situations. This theory, which concerns situations of pure conflict (zero—sum games) as well as situations in which cooperation and coordination are in the interests of all persons, has been used to model electoral conflict, nuclear deterrence and war scenarios, coalitions,

tional formation processes in committees and international systems, and incentive structures in a variety of economic systems. The issue we explore in our paper is the extent to which Sun Tzu's arguments about strategy are consistent with this theory.

The part of game theory that is of special relevance to our understanding of Sun Tzu's writings is that that theory is predicated on the assumption that all sides to a conflict are equally aware of strategic possibilities and motivations. Hence, we are especially interested in establishing the implications of his arguments when it is assumed that both sides to a conflict are equally well-informed about his writings.

To what extent can we argue that Sun Tzu held an intuitive understanding of the basic principles of game theory, which include the necessity for resolving regresses of thought of the form "if—he—thinks—that—I—think—that—he—thinks. . ." ? To what extent did he fail to fully appreciate the complexity of strategic interaction among people? And to what extent can we reinterpret and refine his writings in light of contemporary Game Theoretic research? Do Sun Tzu's writings and subsequent elaborations provide empirical support for game theory? Can we categorize the specific conflict scenarios identified by Sun Tzu in terms of the theoretical categories of conflict offered by game theorists? Can we use Sun Tzu's insights to anticipate future developments in game theory itself?

More generally we intend that our paper will bridge the gap between research on the meaning and implications of Sun Tzu's writings and contemporary scholarship on the general character of strategic conflict.

THE GUIDING ROLE OF SUN TZU IN SETTLING INTERNATIONAL CONFLICTS

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This paper is on the extraordinary value of "Sun Tzu" for the peace cause of human being. Sound strategy of mediating international conflicts lies in the profound philosophy of "Sun Tzu", instead of modern armory.

The idea of "The best way in the act of war lies in astuteness" should be mode of thinking in pursuing peaceful international circumstances. Peace is the most valuable benefit for any nation. Antagonism philosophy is the theoretical root of international conflicts. Under the inspiration of "Sun Tzu", the author put forward that the antagonism philosophy should be replaced with negotiation philosophy in the mediation of international conflicts.

SUN—TZU'S PSYCHOLOGICAL WARFARE THEORY AND ITS GUIDING SIGNIFICANCE

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Sun—Tzu, praised as the wise man of strategy, was a great military theoretician of Chinese ancient history. He had written a very famous military work called Sun Tzu's Art of War, which was not only the earliest and the most comprehensive strategic work, but also the earliest book on psychological warfare theory in the world.

The main contents of the above—mentioned theory are as follows;

1. Putting forward the strategic principles of psychological warfare;
2. Clarifying the tactical principles of psychological warfare;
3. Revealing the theoretical structure of the stratagem of psychological warfare;
4. Putting forward the strategic means to win the heart of the enemy generals;
5. Putting forward the methods of psychological operations to attack the enemy's morale.

Sun's psychological warfare theory is the foundation of that of the modern times. Under modern circumstances, although the ways and means of psychological operations have been changing and developing greatly, its basic principles laid down by Sun Tzu still hold water.

Sun's psychological warfare theory will be of great guiding significance for organization and enforcement of psychological warfare nowadays especially for the future, and also for adjustment and formulation of foreign policies according to the change and development of international strategic structure.

A PRELIMINARY DISCUSSION OF PROBLEMS IN CONTEMPORARY INTERPRETATIONS OF TRADITIONAL CHINESE MILITARY THOUGHT

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Much of the contemporary Western (and to some extent Chinese) scholarship on traditional Chinese military thought accepts that there are certain persistent, consistent traits that have characterized strategic thinking through the ages. Some of these characteristics include a preference for active defense; a preference

ence for 'limited war', or the restrained, 'political' application of force; and low estimations of the efficacy of 'pure' violence to solve security problems. The literature often traces these characteristics back to Sun Zi and assumes that there is a more or less unbroken conceptual and behavioral chain from the Warring States period to the present.

In my paper I would like to examine these arguments and assumptions more closely, looking for corroboration in Sun Zi's *The Art of War* as well as in other important works on strategy, namely the *Seven Military Classics* [武经七书]. Specifically, I will look more critically at three central arguments in contemporary interpretations of traditional Chinese military thought: that there is a stress on defensiveness; a belief in the low efficacy of pure violence; and a preference for restraint and limited war.

My initial sense is that there are a number of underlying tensions in traditional strategic thought which contradict, or weaken to some extent, the assumptions and conclusions in contemporary analyses. There are, for example, no particularly strong admonitions in various works on strategy against the invasion, subjugation or destruction of enemy states. Moreover, the strong emphasis placed on absolute strategic flexibility, as embodied in the concept of *quan bian* [权变], would imply that no appropriate limits should be placed on the scope of methods of war. There is also, it seems to me, a tension between idealized uses of force, embodied for instance in the phrase *bu zhan er qu ren zhi bing* [不战而屈人之兵], and a structure of argumentation in the *bing shu* [兵书] which views the actual application of violence as highly useful in defeating the adversary. There is, additionally, some tension between preferences for limited war — as Sun Zi indicates in his admonitions against protracted external military campaigns — and the concept of just war, *yi zhan* [义战], which conceptually at least, can justify behaviors similar to what we now call total war.

My methods of analysis are eclectic: I draw on cognitive techniques, semiotics and traditional textual analysis to analyze the validity of contemporary interpretations of traditional Chinese military thought.

THE ORIGINS AND FORMATION OF SUN TZU'S MILITARY THOUGHT

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1. War theory originates from wars. Accordingly, all of the thoughts or doctrines concerning military affairs are necessarily the summarizing of war experience.
2. In ancient China, from the beginning of its civilization to the time of Spring—Autumn and Warring States, the history of war can be divided into three stages: the period of conflicts between various primitive tribes, the wars launched by "the army of humanity and justice" in the Three Dynasties, and the wily

wars in the Spring—Autumn and Warring States periods.

3. In accordance with this process, the war theory has undergone three phases. A. The military principles in the Yellow Emperor's era (the records of which are missing), with the characteristic of "counting upon the force of spirits and demons for support". B. The principles developed in the Dynasty of Western Zhou, which can be found out in SIMA METHODS and SIX TACTICS (writing time of the two books and the thought expressed in them should be treated separately). The trait of the principles is that it complies with the creed of humanity and justice, and practised in a manner of courtesy. C. The military doctrine emerging in the Spring—Autumn period, origins of which can be traced back to Lu Shang. Of the representative figures who developed this kind of thought before Sun Wu were Ji Liang, Cao Gui, Guan Zhong, Sima Ziyu, Lao Tzu, Confucius and the Tians. The school is noted for its advocating of a fraudulent tactics, and at once submitting to the dogmata of humanity and morality.

4. Sun Wu's absorbing of ancient predecessors' thought. A. He regarded the loyalty of the people as the basic precondition of military activity. B. He argued for adopting simultaneously of military and diplomatic—political means and giving priority to use of the contrived diplomatic trick. C. He considered economic power as the base of military affairs. D. Insisting that fraud is the very essence of Bellona. E. Laying stress on the factors of weather and terrain.

5. Sun Wu's wisdom and originality. A. Establishment of a systematic and complete military theory. B. Advocating of a military strategy which can offer a certain guarantee of success. C. Expounding a knowledge of crafty and shifty tactics. D. Emphasizing on the importance of dexterity and insight in accurate thinking and judging of the war situation.

THE OUTSTANDING STRATEGIST SUN TZU AND HIS ART OF WAR

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Sun Tzu, alias Chang—Qing, was born in Yue—An of Qi state (now Hui Min County, Shandong Province) at the end of the Spring—Autumn Period. He followed his career at the end of 600 B. C. and the beginning of 500 B. C. when Confucius, the creator of Confucianism lived. In order to avoid the fratricide in Qi State, he ran out of his native country to Wu State (now Jiangsu Province) and was appointed as a general by He Lu, the king of Wu. He gave counsel to He Lu and made Wu State stronger. In the year of 506 B. C., he helped the king of Wu attack Chu by using a strategy of long—range raid.

Having defeated the enemy five times in five battles, Wu's thirty thousand elite troops smashed Chu's army of one hundred thousand men and occupied Ying, the capital of Chu (to the north of present Jiangling County, Hubei Province) at one stroke. Thus Wu State became a hegemonic kingdom at the end of the Spring—Autumn Period.

The Art of War is the first theoretical military book in the history of the world. It consists of thirteen chapters, i. e. "Laying Plans", "Waging War", "Attack by Stratagem", "Disposition of Military Strength", "Use of Energy", "Weaknesses and Strengths", "Manoeuvring", "Variation of Tactics", "On the March", "Terrain", "The Nine Varieties of Ground", "Attack by Fire", and "Use of Spies". Its main ideas are as follows: On the outlook of warfare, it stresses "Caution in waging war" and points out that war is a matter of vital importance to the state, a matter of life and death, so that far-sighted deliberations and serious studies must be made without the slightest negligence. On the strategic level, it places emphasis upon the principles of "Subduing the enemy without fighting" and the concept of "Winning a Complete Victory", maintaining the position of strength to deter the opponent to gain the most advantageous results with the least possible cost effort. This is the classical "deterrence strategic doctrine" in China, appreciated, inherited and developed by modern military strategists. On the command and control of fighting, many valuable principles and methods are contained in the book, such as "Know enemy and know yourself", "Attack enemy's weaknesses and avoid his strengths", "Win a speedy victory in the shortest possible time", "Concentrate forces", "Take initiatives in hand" and "Be flexible and mobile", etc. With regard to the management of army, it advocates strict discipline with severe punishments and generous rewards, pays more attention to the importance of the role of commander-in-chief and the prudent selection of men of talent. It maintains that only the man who possesses qualities of wisdom, sincerity, courage, discipline and taking good care of subordinates, can be appointed the commander-in-chief.

For more than two thousand years, the Art of War has exerted great influence upon the military theories of China, and of the world. Sun Tzu has been esteemed as a great military mind and the forefather of the oriental military learning. The Art of War is respected as a book of military classics, noble and conspicuous in the treasury of world's military history.

SUNZI AND HIS RELATIONSHIP TO WARRING STATES THOUGHT

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This paper has two sections. In the first I outline Sunzi's method of manipulating forces in the environment to achieve victory, rather than engaging in direct conflict. In the second I discuss three implications for Warring States (Zhanguo) thought that may be drawn from studying this aspect of Sunzi's method.

The Sunzi text, of course, contains many strands of thought. However, one strand gives the text its particular reputation. This is the notion of the "indirect approach" — achieving victory without either expending one's own resources or utterly destroying those of the enemy. Sunzi offers various ways in which to put this into practice. All of them address the environment. By environment I mean here the elements that surround the general and his troops, including economic and ideological matters as well as the physical

terrain and weather. Sunzi, I argue, first advocates taking action to prepare the environment. When the environment is suitably prepared, he can then achieve his objective with little direct cost to himself.

There are two primary ways in which Sunzi suggests preparing the environment. First, he can deceive the enemy into choosing unwise tactics by placing an attractive bait before them. Then, of their own will, they select a course of action that is in fact not beneficial to themselves. Second, he can bring his men to fight whole-heartedly by placing dangers or rewards before and around them. Throughout, Sunzi maintains his effectiveness by continually responding to environmental forces— —he is constantly in dialogue with them, adjusting to them as well as manipulating them to his advantage. In all these ways he is like water, which has no shape of its own but will rush headlong down a precipice, taking all before it.

From these observations I draw three conclusions. (1) The Sunzi text is not best understood as providing principles of strategy or offering pieces of advice. Instead it gives examples or specific illustrations of this interactive, environmental thinking. (2) In certain ways the Sunzi resembles the Laozi. As we have seen, Sunzi manipulates the environment so that people unwittingly and spontaneously act as the wise general wants them to. I argue here that this is the strongest link between the two texts. It also constitutes the clearest practical manifestation of Laozi's Wuwei. If we accept a third-century B. L. E. dating of the Laozi, it seems that the Sunzi has had a direct influence upon it. (3) The standard interpretation of Warring States thought emphasizes certain well-known moral, governmental and philosophical issues of the Hundred Schools. None of these issues are present in the Sunzi. In this sense I argue that the Sunzi is the least culturally specific, the least "Chinese" of Warring States texts. On another level, however, its environmental approach is typical of the "thinking in wholes" that characterizes philosophers as different from each other as Confucius and Zhuangzi and which typifies much of Warring States thought. This mode of thinking is especially apparent in the Sunzi because of its very lack of philosophical content. Thus, paradoxically, the absence of these philosophical concerns may make the Sunzi both the strongest representative of Warring States thought as well as its most readily exportable manifestation.

ON THE EARLY SOURCES RELATING TO SUN WU

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The name Sun Wu occurs for the first time in the shiji— —i. e. about four hundred years after Sun Wu is supposed to have lived. I examine the meaning of the expression 'Sun Wu' ("Sun and Wu's") in pre-Shiji sources and argue that it refers to Sun Bin and Wu Qi, not to Sun Wu and Wu Qi. I examine the occurrences of the expression 'Sunzi' ("Master Sun") and conclude that outside of the military treatise tradition it refers to Sun Bin. I examine the texts relating to Sun Wu in the Yinqueshan corpus, in the shiji and in the shangsunjiashai corpus and argue that they contain stories of a didactic nature that are of little use to

history. The text about Sun Wu's prognostication of the sequence of the fall of the successor states of Jin can be dated to the middle of the 3rd century B. C and there is no reason to think that any source relating to Sun Wu is earlier than this. The story about Sun Tzu's participation in the state of Wu's War against the state of Chu is seen by me as an elaboration of the topos of the fugitive who obtains revenge upon his native country by taking part in the state of Wu's wars against it. This can be seen from the Wu Yue Chun Qiu and from the genealogical tables of the Xin Tang Shu.

RELATIONSHIP BETWEEN SUN'S ART OF WAR ARTS AND THE BOOK OF CHANGES

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The Book of Changes, a classical philosophical work written in the early Western Zhou Dynasty (D. 11th century—771 B. C.), being thought to be a work of the natural and social laws, can be considered as the foundation of the Chinese traditional culture and the source of all the Chinese academic theories.

The classical literature Sun's Art of War that is full of philosophical theories has a thousand and one links with The Book of Changes. Thus, the study on Sun's Art of War from the viewpoint of The Book of Changes will lead us to a deepgoing understanding of the basic principles of Sun's Art of War.

According to The Book of Changes, the term Dao means the Yin (negative) and Yang (positive). In other words, the Dao is the development law of the nature world and human society.

Sun's Art of War embodies the quintessence of Dao. First, this book advocates cautious wars, and opposes dispatching troops based on the transient subjective desires of prince or commander. It points out that no army should be mobilized due to the prince's or commander's indignation, and that the way that goes straight to security and stabilization of a country and its army is to act according to advantages and disadvantages. Second, it holds that the guiding ideology of war must be "Five Aspects" and "Seven Stratagems", and that the Dao is the first of the "Five Aspects", because the basic factors determining the outcome of a war are objective conditions. Third, it holds that the "War Dao" (war law) also is a determining factor of a campaign, hence in some cases the prince's commands may be disobeyed.

The Bian (change) is the soul of Sun's Art of War and the gist of The Book of Changes is just the exploration of changes of cosmos. Both Sun's Art of War and The Book of Changes hold that the changes of everything are (1) unlimited, (2) intricate, (3) knowable.

The Book of Changes teaches us to go with Du (degree or rule). The Du means harmony, unity, symmetry, complementarity, satisfaction and mean. A model of Du is the Taijitu pattern, which shows that everything has two opposites, the Yin and Yang. The theoretical system of Sun's Art of War is penetrated with the idea of Du, hence is perfect. In summary, the philosophical ideology on Dao, Bian and Du of The Book of Changes is the foundation of Sun's military strategy and tactics.

SUN ZI'S ART OF WAR AND THE BOOK OF CHANGES

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Sunzi's Art of War is universally acknowledged as one of the earliest military works. At the same time, however, it is a wholly matured book of strategy and tactics, being judged either by the contents or by its length. Such a masterpiece of military art could not emerge all at once. It must have its sources.

Studying The Book of Changes, the author finds that the philosophic principles and language of this book happen to coincide with those of Sunzi's Art of War. Some of the sentences of this book, which the annotators of past ages felt difficult to elucidate, could be explained easily by means of Sunzi's Art of War.

Thus to some extent The Book of Changes had an important influence upon Sunzi's Art of War.

In this thesis the author produces his academic achievements in research. The main points are as follows:

- — — The era in which Sunzi lived and The Book of Changes.
- — — The relation of Sunzi's Art of War to the philosophic thinking of The book of Changes.
- — — The relation of Sunzi's Art of War to the military thinking of The book of Changes.

MILITARY BRANCH OF LEARNING OF SUN TZU AND SCIENTIFIC RATIONALE

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In the study of Sun Tzu, we must adhere to the spirit of scientific rationale and the line of seeking truth from facts and oppose the blind worship of ancient classics; on the other hand, we must get rid of the bad style of wantonly distorting classics and doubting and negating everything.

Appropriate conclusions may be reached on the basis of above-mentioned principles about the age-long controversial questions such as the author of the thirteen chapters, the publication year of the book, the methods of collating and explaining the languages of the thirteen chapters and the assessments of Sun Tzu's thought.

Firstly, there was really a man with the name of Sun Wu in the Chinese history though records about his biography in ancient books were very brief and had a legendary and fictitious colouring. The Art of War had been drafted by Sun Wu and was finished by the strategists in the Warring States period.

Secondly, with regard to the collation and explanation of the language of the thirteen chapters, both Deng Tingluo's Variorum Edition of Sun Tzu in Qing Dynasty and Japanese Sakurada Edition (《櫻田》本)

committed grave mistakes of wantonly distorting the original text with a lot of subjective arbitrariness.

Thirdly, most scholars of past ages confine themselves to the preconceived ideas of Confucianism. They did not understand the laws and demands of military struggles and always made improper comments. So, in refuting the above-mentioned arbitrariness, we cannot rigidly adhere to the old construed text and traditional commentaries without any improvements, leaving the time-worn cliché to be carried over. In short, the collation and explanation of the ART OF WAR must be done carefully and prudently, based on truth and facts. Combining the dialectical thinking with the logical thinking, we can make new discovery and solution in our study and successively push forward the study of Sun Tzu.

A TEXTUAL RESEARCH ON THE NINE VARIETIES OF GROUND FROM SUN TZU'S ART OF WAR

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Sun Tzu's Thirteen Chapters dates back to thousands of years as a masterpiece embracing all aspects of war in a wide range and great depth. It is a well-built science system featured by efficiently organized chapters, sentences and words, thorough employment of syllogism and deduction method, which is a rarity among Chinese ancient books. Because it has been handed down over a period of 2,500 years, it is hard to avoid redundancy, misprints, reversion and omission in later editions. The much disputed chapter The Nine Varieties of Ground is quite different from all the editions since Chinese Spring and Autumn and Warring States periods according to my research done with syllogism and deduction method. The outcome makes me feel that I have found the solution to a thousand-year-old riddle. After the First International Seminar on Sun Tzu's Art of War held in May 1989, for the first time I read the comments on The Nine Varieties of Ground in a book by Deng Ting Juo of Qing Dynasty, namely *A Variorum to Sun Tzu*. Although we live in different times and different countries, Mr. Deng and I shared the same view when he stated in his book that "the existing edition may not be correct due to frequent copying of the original one". I was so excited at the fact that I could not help but recall two lines from a Japanese ancient poetry:

Different roads lead to the mountain top

Where the same moon is observed aloft

The practice of altering the arrangements and text of classic works according to one's subjective assumption should be terminated. It is self-evident that serious and prudent attitude should be taken and careful research conducted in collating ancient books. The article is a comparison between my *New Variorum to Sun Tzu's Art of War* and *The Nine Varieties of Ground with Appendix to Books on Art of War* by Deng Ting Juo and Sun Tzu of Japanese official collection as references. I shall be very appreciative to have your comments on my article.

COMMENTS ON GRIFFITH'S TRANSLATION OF SUN TZU'S ART OF WAR

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Taking Sun Xingyan's edition as the original version, Samuel B. Griffith, the retired American brigadier general, translated Sun Tzu's ART OF WAR into English in 1963. This English book is rich in content, incorporating his doctorate thesis on SUN TZU, the studies on Chinese military thinking, both ancient and contemporary, and, what is more, a forward by the famous British strategist B. H. Liddell Hart. In this book, Griffith brought into full play his advantages of being a soldier as well as a scholar, studied THE ART OF WAR from the military point of view and was adept at translating with military terms. The translation became an authoritative one and was accepted in the Chinese Translations Series of the United Nations Educational, Scientific and Cultural Organization (UNESCO). In the past nearly 30 years, this book has been repeatedly published and has made positive contributions to the popularization of THE ART OF WAR and the propagation of Sun Tzu's thought.

However, Griffith's translation leaves much to be desired. Some serious shortcomings and mistakes can be found by perusal of the translation against Sun Xingyan's text.

Firstly, from the seventh chapter onwards, the translator arbitrarily deleted and transposed many Chinese phrases and sentences, making, in serious cases, the original text beyond recognition. For example, the important sentence "故不知诸侯之谋者,不能预交" (One who is not acquainted with the designs of his neighbours should not enter into alliance with them) in the chapter MANOEUVRING was dropped. The translator said, without good grounds, that "The verse... repeats a previous verse and is a non sequitur." He deleted "上雨,水沫至,欲涉者,待其定也" (When heavy rain falls in the upper reaches of a river and foaming water descends, do not ford and wait until it subsides.) in the chapter ON THE MARCH, because he suspected "it is part of the commentary which has worked its way into the text, ... obviously of place here." In the chapter THE NINE VARIETIES OF GROUND, the arbitrariness in the deletion and transposition of the original text was more glaring. For example, what follows "围地则谋,死地则战" (in encircled ground, resort to stratagem; and in desperate ground, fight courageously) is the paragraph beginning with "所谓古之善用兵者" (In ancient times, those described as skilled in war). But he thought it should be "是故,散地吾将一其志.....过则从" (Therefore, in dispersive ground, I would unify the determination of the army ... and to follow commands implicitly when they have fallen into danger) in a later paragraph far from here and, therefore, he shifted the 82 Chinese characters beginning with "是故,散地吾将一其志" immediately after "围地则谋,死地则战". Then he put "九地之变,屈伸之利,人情之理,不可不察" (The different measures appropriate to the nine varieties of ground, the expediency of advance or withdrawal in accordance with circumstances and the fundamental laws of human nature; these are mat-

ters that must be studied carefully by a general.) at the end of the paragraph beginning with “将军之事” (It is the business of a general), and again, immediately after “不可不察”, he deliberately cut the 54 Chinese characters beginning with “凡为客之道:深则专” (Generally, when invading a hostile territory, the deeper the troops penetrate, the more cohesive they will be).

Secondly, Griffith's translation left out untranslated many important Chinese words, phrases and even sentences of the original text.

For example, in the chapter MANOEUVRING, he rendered the sentence “倍道兼行,百里而争利” as “... Marching at double time for a hundred li...”, leaving out “争利” untranslated. The meaning of the sentence should be something like “marching at double speed for a hundred li to wrest an advantage.” In the chapter ATTACK BY FIRE, he translated “主不可以怒而兴师,将不可以愠而致战;合于利而动,不合于利而止。怒可以复喜,愠可以复悦,.....” as “A sovereign cannot raise an army because he is enraged, nor can a general fight because he is resentful. For while an angered man may again be happy, as a resentful man again be pleased...”, ignoring “合于利而动,不合于利而止” (Take action if it is to your advantage, cancel the action if it is not). Similarly, in the chapter UAE OF SPIES, he translated “死间者,为诳事于外,令吾间知之,而传于敌” as “Expendable agents are those of our own spies who are deliberately given fabricated information”. That is too simple, for many of the Chinese words like “知之,而传于敌” (and told to report it to the enemy) were cut off.

Thirdly, there are many inaccuracies and mistakes in the translation. Translations of some of the English chapter titles are open to question. For example, Griffith rendered the title of the first chapter “计” as “ESTIMATES” and said in the footnote that “In the Seven Military Classics edition the title is 'Preliminary Calculations'”. The subject first discussed is the process we define as an Estimate (or Appreciation) of the Situation. “But as a matter of fact, Tsao Tsao pointed out that it referred to the deliberations in the temple, covering all important aspects of the war. So the word “ESTIMATES” is too narrow in meaning and should be replaced by “LAYING PLANS”.

The inaccuracies and mistakes in the translation of the text are rather serious. For example, in the first chapter, “兵众孰强” was rendered as “Which troops are the stronger?” In fact “兵众” refers to “arms”, not “troops”. So the rendering should be changed into “which side is superior in arms?” In the chapter WEAKNESSES AND STRENGTHS, the sentence “寡者,备人者也,众者,使人备己者也” was translated as “One who has few must prepare against the enemy; one who has many makes the enemy prepare against him”, The translator got it completely wrong and the English equivalent should be “Numerical weakness comes from having to prepare against possible attacks; numerical strength from compelling the enemy to make these preparations against us.”

If measured by the text of THE ART OF WAR on the bamboo slips unearthed from the Han tombs in Yinque Mountain, Shandong Province, and the new version of THE ART OF WAR collated by The RSSTAW, more mistakes would be found in Griffith's translation. Many factors, both subjective and objective, account for these problems and shortcomings, among them one is the translator lacked a strict style of work, another is the limited material available to him when he translated the book, Since then, however, about thirty years have elapsed. With the publication of the new collated Chinese version of THE ART OF WAR and the strengthening of international academic exchanges, we believe that more authentic and authoritative English version of THE ART OF WAR will be brought into being, so as to lay down a solid

basis on which studies and popularization of Sun Tzu's thought can be done in a better way.

ON THE CORRECT EXPLANATION "SELECTING SUITABLE MEN AND EXPLOITING THE SITUATION ("择人而任势")

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In the fifth chapter of the Art of War, Sun Tzu said "故善战者,求之于势,不责于人,故能择人而任势。" This passage usually interpreted as: A general who is good at commanding an army tends to focus his attention on "exploiting the situation instead of making excessive demand of his subordinates. Thereby he can have men of his choice and take advantage of the favourable situation." In fact, the Chinese word "select (择)" does not necessarily mean "choose" (选择). In many cases, it is used interchangeably with "free" (释), meaning "give up" (舍). Therefore, the correct interpretation of that passage should be the following: A general who is good at commanding an army focuses his attention on "seeking the favourable situation" instead of "seeking suitable men", thus he can give up efforts to have men of his choice and exploit the situation.

According to my research, there have been cases of the word "择" being used as "释" (free) in 17 places in 9 Chinese ancient books written before Han Dynasty (206BC). In these books, many ancient and modern scholars, among them were Pei Yin, Xu Guong, Gao You and Huang Hui, made detailed annotation about it.

In an analysis of Sun Tzu's philosophy, the structure of his book and the logic of the text, one can find that there is nothing relevant to "selecting suitable men". The past interpretation does not bring out the true meaning as a result of misunderstanding of the Chinese word. Only by taking "择" as "释" (free) and interpreting it as "give up" can that passage make sense. Many annotators since Cao Cao of the Three Kingdoms Period took the Chinese word "择" for "choose" in their strained interpretation of Sun Tzu's concept of creating and exploiting favourable situation. It has caused much misunderstanding of Sun Tzu's philosophy, for instance, misinterpreting seeking overall superiority as that of individual combatants, thus obliterating the overall nature of posture of an army; blurring the distinction between subjective will power in creating a situation and objective determinants in exploiting a situation; equating "seeking suitable men" with "seeking a favourable situation" while Sun Tzu placed more importance on the latter instead of the former.

Besides, in the years of Spring and Autumn and Warring States periods, the king of every state was advised by their counsellors to seize every opportunity and take advantage of the situation to achieve their ultimate goals. In his career as a businessman, Fan Li, a military strategist in ancient China, practiced business in line with Sun Tzu's philosophy, also advocated "giving up efforts to have men of one's own choice but trying to exploit the situation". All that is helpful for us to understand Sun Tzu's philosophy. However, it is an unfortunate thing that some annotators of old times even commented on Fan Li's business

philosophy in terms of their misinterpretation that carried its erroneous influence further into other fields.

"HORSE—CHARIOT" AND "BIG WAGON" — — — — — POSTSCRIPT TO SHI TONG DING

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The inscription on Shi Tong Ding, an ancient tripod unearthed in Fu Feng County Shanxi Province in 1981 is of great value to military study. It describes the story of a small—scale fighting between Zhou and Rong during the years of Kings Yi and Li of Western Zhou Dynasty. Shi Tong, the commanding officer of Zhou's troops tracked and pursued the enemy chieftain Li Bi and killed and captured a number of enemy soldiers. He presented the horse—drawn chariot, the ox—drawn baggage wagon and the processed goat to his emperor in the place named Mian. Moreover, Shi Tong melt the spoils of helmets and swords into a tripod called Shi Tong Ding. Epigraph was inscribed on the tripod for commemoration.

The two terms of "horse—chariot" and "big wagon" mentioned in the inscription are of great significance. They can verify, and can be verified by, the system of chariots referred to in *The Art of War* and *Sima Methods*. They indicated that horse—drawn chariots and ox—drawn baggage wagons had already been used in coordination with each other in military operations as early as the middle and end period of Western Zhou Dynasty. The proportion of wagons to the troops could be roughly derived from the quantities of the spoils. This is useful for the study of the army system in Western Zhou Dynasty.

It is a traditional viewpoint of the academic circles that men of Rong used infantry or cavalry in fighting. However, the record in the inscription of the simultaneous employment of fighting chariots and baggage wagons shows that the question needs further exploration and study.

SUN TZU'S THOUGHT AND INTERNATIONAL TECHNOLOGY COMPETITION

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- I. THE APPLICATION OF MILITARY STRATEGY TO NON—MILITARY PROBLEMS
- FEATURES OF SUN TZU'S THOUGHT THAT MAKE IT WIDELY APPLICABLE
 - A. THE BEST WAY FO GAIN A WIDE RANGE OF SUBJECTS ADDRESSED BY SUN TZU
 - B. FOCUS—ON AVOIDING CONFLICT—ENGAGEMENT—AND WINNING BY DE-

FAULT

II. EVOLUTION OF HIGH TECHNOLOGY COMPETITION

- A. US—JAPAN
- B. US—JAPAN—EUROPE—NEWLY INDUSTRIALIZED COUNTRIES
- C. TRADE IMBALANCES AND INVESTMENT CONCERNS

III. SUN TZU'S THOUGHT AS A FRAMEWORK FOR UNDERSTANDING HIGH TECHNOLOGY COMPETITION

A. COMPUTATION BEFORE BATTLE

The importance of strategic intelligence about international technology competitors.

B. HIGH COSTS OF BATTLE

The necessity for careful financial planning, and the wide investment of resources for civilian and military activities.

C. USING THE OPPONENT'S RESOURCES

The ability to gain access to certain kinds of technology for free so that funds can be leveraged for specific projects.

D. THE POWER OF SURPRISE

The importance of allowing others to hold incorrect opinions and staying flexible enough to act in conflict with those opinions.

E. USING OTHERS TO CREATE MOMENTUM

Leadership for technological development

F. CREATING IMBALANCE

Investment in critical areas while the enemy is comfortable and complacent.

G. DISTORTING THE OPPONENT'S POSITION

Co-opting the enemy; attacking areas not defended.

H. AVOIDING COMPETITION

Letting the enemy be his own worst enemy, as in Japan's use of voluntary auto restraints to the US market.

THE CHINESE WAY TO MANAGEMENT; SUN TZU'S TEACHINGS AND CHINA'S EXPORT DRIVE

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INTRODUCTION

While there has been a great increase in the number of Chinese management students, western theories do not yet seem to have become acclimatised enough to suit their new environment and produce worthwhile

fruit.

This paper attempts to show how an examination of the factors emphasised by Sun Tzu can help in developing modern China's external commercial relations.

SUN TZU'S APPROACH

Sun Tzu examines the crucial factors for success under five headings:

Sun Tzu's factors	Management Equivalent
1. DAO(道)Moral Background	The political moral and legal environment
2. TIAN(天)Climatic Conditions	The economic climate
3. DI(地)Terrain	The market and the competition
4. JIANG(将)Commander	The manager
5. FA(法)Doctrine	The methods,resources and discipline of the organization

Sun Tzu claims that those who master five win:"those who do not are defeated".

The main strands of Sun Tzu's thoughts relevant to business are

Avoid War	Protracted warfare benefits nobody.
Orthodox,Unorthodox	Use unorthodox tactics to win.
Morale & Discipline	Morale and discipline are all important.
New Weapons	Good research & Development essential.
Intelligence	Know your enemy and know yourself.
Decisive Action	Victory goes to the bold.

CHINA'S EXPORT DRIVE AND TECHNOLOGICAL TRANSFER

China's need for exports is well—documented. One weapon to attack the problem of earning or saving foreign exchange has been transfers of technology. China concedes that technology is required from overseas.

Sun Tzu's maxim "Know the enemy and know yourself" (Sun Tzu, 1963,p. 84) reminds us of the need to understand the barriers facing those foreign firms who may want to participate in technology transfer. Another paper (Stewart, forthcoming), discusses the different approaches used in transferring technology to China and points out that although the Chinese try to encourage foreign companies to establish Manufacturing Equity Joint Ventures (MEJV) using hi—tech, the inducements offered appear to have had only limited success in attracting high—tech operations.

Perhaps contrary to Sun Tzu's teachings, not enough care has been taken to discover the facts. For instance, the P. R. C. tax benefits are not, from the point—of—view of most foreign firms, significantly better than those offered by many other countries. Nor is cheap labour in itself important in high tech production. Sun Tzu's commentaries are particularly relevant to the problems faced by any Chinese enterprise hoping to export. The objective is rapid success not a long drawn out war of attrition; a ready market must be quickly identified and exploited if the new production facility is to become commercially viable.

Although external factors cannot be controlled by the manager, a thorough understanding of the external factors is crucial to the correct choice of strategy.

China must develop management methods to suit her own unique circumstances, and a knowledge of

Sun Tzu's approach to the many management problems involved in waging military campaigns can help today's Chinese managers find solutions that are grounded in China's own needs rather than copied slavishly from outside.

Perhaps the most important lesson of all, to be derived from Sun Tzu is the salutary reminder that plans and action should be grounded on solid intelligence gathering and assessment.

SUN TZU'S LESSONS FOR MANAGEMENT AND MARKETING AND HIS RELEVANCE TO THE INTERPLAY BETWEEN CHINA AND THE WEST

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The Chinese classics based on the teachings of Chinese sages 2,500 years ago did not deal with the problems of the business world. However, the military principles explained by Sun Tzu are as relevant today as they were when first expounded. Since the successful business manager requires many of the same skills as a successful general, he can sensibly use the same check lists to prepare his business strategies. This paper suggests that Sun Tzu's terse commentaries on the military art provide three main areas of value for management studies.

- a) A contribution to universal thought on the art of management.
- b) A basic Chinese text to weave into consideration of modern Chinese management.
- c) Concepts of specific relevance to Chinese and foreign partners planning to form joint ventures.

Sun Tzu's short dissertation, while not as all pervasive as the works of Confucius, has been recognised in China and the outside world as a seminal work of military theory and now receives wide recognition as a classic text of more general application. The paper summarises Sun Tzu's five crucial factors for success; Dao, Tian, Di, Jiang & Fa; placing them in a commercial context, and commenting on their significance in the business environment. It continues with a summary of Sun Tzu's thoughts; avoid war, orthodoxy versus unorthodoxy, morale, discipline, new weapons, intelligence, self knowledge, decisive action; and relates them to the business world. The paper then uses Sun Tzu's framework to analyse Chinese and foreign positions and perceptions concerning investment in China, China's export drive and technological transfer; it points up the need for close study of the total environment by both parties in order to avoid false starts and false hopes, and to achieve mutual benefits. The paper concludes;

- a) that Joint Ventures adopting technology transfer and aiming for export can be successful, provided that objective investigation of Di (the market) and Tian (the world economic environment) has provided the basis for the plan.
- b) that Chinese management techniques should be grounded in Chinese psychology, philosophy, and society. Attempts to import western systems wholesale, without regard to the Chinese environment, are likely

to be ineffective.

c) Sun Tzu's Art of War will continue to be a seminal work of great value to all Chinese and foreign students of the Art of Management.

THE ART OF WAR AND TREATMENT BY TRADITIONAL CHINESE MEDICINE

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Since the advent of the Art of War, its fundamental principles have been widely used in military affairs and many other fields, but rarely applied in the medical treatment. In ancient China, a famous physician of traditional Chinese medicine by the name of Xu Dachun accumulated rich clinical experience in practising for fifty years and wrote a well-known book *WRITING OUT PRESCRIPTIONS JUST LIKE USING MILITARY FORCES*, inferring the methods of curing illnesses with Chinese medicinal herbs from the ways and means of employing troops in the Art of War. He traced an analogue between medical treatment and military tactics and recommended ten ways of using Chinese medicinal herbs to cure diseases. Today his methods have already been applied in the field of traditional Chinese medicine.

1. Cut off enemy's life line. According to Sun Tzu's principle: "In open ground, do not allow your communication to be blockaded," cut off the invasion routes of virus.

2. Safeguard the boundary. Apply the principle of safeguarding border to curing the rampant diseases. When the patient's condition is rapidly worsening, do every thing possible to protect the non-infectious parts and the spread of virus in check.

3. Burn enemy's provisions. Destroy enemy's accumulated stores and reduce his sustainability, so as to weaken his fighting ability. The same principle can be applied in curing diseases. For example, the patient who suffers from indigestion of amassed food can be cured by removal of his amassed food in stomach.

4. Suppress reactions from within. Any act from inside in coordination with force attacking from outside will bring about very dangerous consequences. In medical treatment, you must not only take stopgap measures but also make a permanent cure to prevent syndromes which may emerge by virus attack against the patient from both within and without.

5. Use guides. In military fields, you can occupy an advantageous terrain when you use guides. In medical treatment, if you write out a prescription in accordance with the collateral channels, good results will be achieved. There is no panacea, only we take main and collateral channels as a guide and use medicine in conformity with their passages can the effect of the medicine be brought into play.

6. Use "spies". For example, if a patient suffers from pseudo-febrile disease, treat him by reverse process. This is the so-called "treatment by reverse process" in the traditional Chinese medicine. The

method is somewhat like the use of spies in the Art of War to disperse and disintegrate the enemy.

7. Destroy the enemy one by one. A disease always has a lot of symptoms. You should take " piecemeal attack tactics" to cure disease in accordance with different symptoms and the patient's overall condition may be improved.

8. Hit enemy's backbone. In curing several diseases of a patient simultaneously, you must do your best to hit the main disease which hurts most, concentrate the medical effect to eliminate it. That means "hit where it hurts most".

9. Thin out enemy's strength. The incremental approach in dealing with the enemy can reduce his attack momentum. In medical treatment, no extreme prescription should be taken against some serious illness, but mitigated dosage be taken to keep patient's constitution in cultivating the healthy factors and removing the harmful ones, so as to cure the sickness to save the patient.

10. Destroy enemy's den. The hiding enemy will become a potential disaster in the end. He must be removed completely. For the same reason, any hiding disease must be eliminated to dispel its harmful consequences.

Moreover, Xu Dachun put forward the principle of using drugs to cure and nourish the patient simultaneously. In short, his great contributions to the Traditional Chinese Medicine treatment depended largely upon the enlightenment of the Art of War.

ART OF LITERARY LANGUAGE IN SUN TZU'S ART OF WAR

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Sun Tzu was a great master of literary language in ancient China. His ART OF WAR is one of the brilliant works which initiated a new stage in the development of the literary form of argumentation prose.

Sun Tzu's contribution to the development of prose stemmed from his inheriting the theory and art of prose prevailing the ages before him, the nurture by the colourful culture of Qi state and the influence by the military career of his family.

Sun Tzu's ART OF WAR is a complete organic body of 13 chapters with every chapter having the feature of an independent article. Nevertheless, the relatively independent 13 chapters are linked together by the "five constant factors" in such a way that they could be understood easily when the key points (i. e. the "five constant factors") are kept in mind. Having improved the structure of argument prose by dividing it into chapters with titles, Sun Tzu added the argumentation prose a new style which differed from proeses of quotation style, dialogue style and titleless chaptered style. This is the literary heritage left by Sun Tzu which should be treasured by later generations.

The ART OF WAR marks a new height in wording skill as well. With all kinds of sentences such as

verse, standard sentences, complete sentences, broken sentences, long sentences, short sentences, complex sentences and simple sentences, Sun Tzu expressed exactly, flexibly and vividly his own meaning in the ART OF WAR. His aim of wording was to interpret well his ideas, hence, words he used might be new but not rare, familiar but not vulgar, unthinkable but not unsuitable and aphoristic but not eccentric. Standard language and spoken language were merged together so well that the ART OF WAR appeals to both more or less cultured readers.

The ART OF WAR employed almost all rhetorical methods including versification, metaphor, hyperbole, parallelism, question, analogy and repetition, and made some exploration in rhetoric as well. Since military thought is one of the applied sciences which requires concision, precision and being easy to study, memorize and recite, the ART OF WAR was written in rhyme which makes the text sound sweet and crisp when it is recited. Concision is another prominent feature of the ART OF WAR. "Short" is its appearance while "succinct" is its nature. Without the ramification of wording, not any single word of the book could be deleted.

The 13 chapters of the ART OF WAR are also characterized by the skilful application of formal logic and dialectic logic, and proper use of scientific methods of thinking, for example macroscopic thinking in dealing with "calculations in the temple" and "to subdue the enemy without fighting", microcosmic thinking in comparison of numbers, abstract thinking in expounding the law of war, and thinking in terms of images in metaphorizing and hyperbolizing. By ingenious combination of all types of thinking, the ART OF WAR presents the readers an excellent picture of the art of multi-dimensional and multi-angular thinking.

All in all, the ART OF WAR is an invaluable masterpiece of literature, while its author—Sun Tzu deserves the honour of literal giant and the title of great linguist.

A REVIEW OF DR. NEEDHAM'S SCIENCE AND CIVILIZATION IN CHINA WITH SPECIAL REFERENCE TO GUNPOWDER EPIC

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Entrusted by the Institute of History of Natural Science, Chinese Academy of Sciences, I participated in the collective translation work of Science and Civilization in China by Dr. Joseph Needham. It is a part concerning gunpowder. With high admiration for Dr. Needham's profound knowledge and his tireless devotion to writing this monumental book, I made great efforts in checking the sources so as to do a good job. Mistakes have been found. Some minor errors might be ignored, for understandably there might be some language problems or some negligence from his assistants. In my Chinese translation I made footnotes to some errors. Considering the format of the book, I made them brief. The present essay aims to discuss the

problems found in the part I translated so that we may have a clear understanding of the history of the development of the Chinese military technology. It also aims to make contribution to the research in military science.

The essay contains three parts. First, it touches upon the problem of whether novels are a reliable source or not. Dr. Needham cited examples from novels to illustrate his points on the development of military technology in the 14th and 15th centuries A. D. . Ling Zhen 凌振, an artilleryist in Chapter 54 in *Stories of the River—Banks*, was described as the greatest artilleryist of his age on P. 299 in Dr. Needham's book. Fiction cannot be considered a reliable source when verifying historical facts, such as flame—throwers and other military inventions. Scholars are still dedating about who wrote *Stories of the River—Banks*; therefore, whether Ling Zhen 凌振 could be considered the greatest artilleryist of the time remains a problem.

Second, there are some problems relating to historical places and military campaigns. Chang Hsien was a poet who wrote a number of poems on military affairs. Dr. Needham mentions his poems several times. He considers that the poem Pei Feng Hsing (*Affairs of the North Wind*) was written in the middle of the 14th century on P. 153 and Thieh Phao Hsing (*The Iron Cannon Affair*) was written about 1341 A. D. on P. 270. Clearly Dr. Needham possesses good knowledge of Chang Hsien's time and events. However, he asserts that Chang's poem Fu Yang Hsing (*On Soldierly Proceedings at Fu Yang*) 富阳行 was about the wars between the Chin Tartars and the Mongols. In his footnote on P. 228, Dr Needham says that Fu Yang was in Shandong Province whereas it should be in Zhejiang Province. In the English translation of this poem, Hua Yao was translated as the Tartars. The fact is that they were Miao and Yao minority nationalities living in Hunan and Guangxi Provinces. The soldiers stationed in Hangzhou, Zhejiang Province in 1330 were led by Yang Wan Zhe 杨完者, who was a Miao. Because their dresses were decorated with stripes, local people called them Hua Yao. This event took place in Chang Hsien's time and in Fu Yang which was near Chang's hometown Shan Yin. Therefore, the wars were not fought between the Chin Tartars and the Mongols in Shandong Province.

Third, there are some minor problems in collation. On P. 134, Zhong Kui 钟馗 is misprinted as Zhong Xu 鍾旭. Zhao Yurong 赵与 is misprinted as Zhao Yuyan 赵与 on P. 179. These mistakes could be avoided in proof—reading. All the mistakes mentioned above could be easily corrected in a second edition of the book.