

INFORMATION WARFARE

Learning With Sun Tzu

Prof George J. Stein

USAF Air War College, Montgomery Alabama, USA ¹
Department of Future Conflict Studies

ABSTRACT

The thesis of this essay is that asking whether the conduct of Information Warfare is like the conduct of war described in the Warring States era in ancient China by Sun-Tzu's Art of War can provide strategic insight. It is not asserted, however, that InfoWar equals Sun-Tzu's Art of War. This essay also asserts that the very "otherness" and "oddness" of the Art of War is its great appeal. It is a means to gain the critical distance or perspective to explore the "otherness" and "oddness" of a universe in which InfoWar can be seen as somehow "real." It is, fundamentally, "serious play."

INTRODUCTION

In a science fiction novel by Gordon Dickson, *Tactics of Mistake*, the "head of the Tactics Department of the Western Alliance Military Academy" provokes an argument among some field officers by observing that the "sound strategist, used to dealing with unreal things, is a better manipulator of [men and weapons] than the man used to dealing with the real tools – that are actually only end products." He goes on to illustrate from fencing.

The fencing tactic is to launch a series of attacks, each inviting ripostes, so that there's a pattern of engages and disengages of your blade with your opponent's. Your purpose, however, isn't to strike home with any of these preliminary attacks, but to carry your opponent's blade a little more out of line with each disengage so gradually he doesn't notice you're doing it. Then, following the final engage, when his blade has been drawn completely out of line, you thrust home at an essentially unguarded man.²

In his *Introduction to Strategy*, André Beaufre notes that in addition to the historically established strategic factors of time, space and the size and morale of the forces available, it is the fourth factor of *maneuver* which governs "the order and inter-relationship" of the basic three.

Taking fencing as an analogy, it is clear that there are a number of possible forms of action and reaction: *Offensively* there are eight postures – 'attack' which may be preceded or followed by 'threat', 'surprise', 'feint', 'deceive', 'thrust', 'wear down', 'follow-up'. *Defensively* there are six postures – 'on guard', 'parry', 'riposte', 'disengage', 'retire', 'breakoff'. As far as the actual forces are concerned there are five possible types of decisions – 'concentrate', 'disperse', 'economize', 'increase', 'reduce'.

This gives a total of nineteen components to be arranged and combined in the light of the time and space factors. They constitute the keyboard on which the game of strategy is played. ...all are aimed ultimately at *freedom of action*, the object being either to gain it, regain it or deprive the enemy of it.³

Beaufre goes on with this fencing / strategy analogy by illustrating each of the nineteen components with cases of allied and axis military operations during the Second World War.

Now it is obvious that strategy does not *equal* fencing. And, it is for swordsmen and soldiers to debate whether strategy is *like* fencing. Strategy does not *equal* the Western game of chess or the Eastern game of *Go*. The question for the militarist (used here to mean a person who studies both the theory and practice of strategy) is whether subjecting a particular strategic problem to analysis *as if* the problem were *like* a problem in fencing, chess or *Go* is in any way instructive or useful in learning the Art of War.

If “war” is *sui generis* – a phenomenon in its own class and, in its essence, incomparable with any other human activity, then comprehending it can be done (as is believed by far too many in the US Army) only through *doctrine*. We will employ specialist *military historians* to comb the litter of history to discover “lessons learned” from past war and battle. It has even been said that the military should not conduct information warfare as there is no authoritative doctrine manual based on the lessons learned from past information wars! Any student of the evolution of air power, or more especially, aerospace power understands the leaden drag of “historical lessons learned.”

But of course, aerospace power is “like” other forms of power and, equally important, it is “unlike” other forms of power in very distinctive ways. So long as aerospace power is treated by strategists and generals within the “historical” surface-based, two-dimensional territorial campaign, the “distinctive” characteristics of aerospace power can never be realized. To illustrate: what if it were argued that the distinctive characteristics of aerospace power (usually listed as including speed, precision, range, freedom of maneuver [including dispersion and concentration], and discriminate lethality) are the essential characteristics of contemporary and most-likely future “wars.” Then, the traditional “principles of war” beloved of doctrinaires would have to be reinterpreted. Would, for example, a huge standing army with mobilizable needing to be trained reserves be appropriate for a world of conflicts requiring speed, precision, range or discriminate lethality?

Clearly, the characteristic conduct of every future war and conflict does not *equal* the characteristic conduct of aerospace warfare. The question for the militarist is whether subjecting a particular strategic problem to analysis *as if* the problem were *like* a problem in aerospace warfare is in any way instructive or useful in learning the Art of War. Is contemporary aerospace campaign thinking a useful *analogy* with which to analyze *other* strategic problems? While not wishing to appear trite, is it not accurate to say that in dealing with the contemporary political, economic and energy environments, what Royal Dutch Shell needs most is the ability to act with speed, precision, range, freedom of maneuver, and discriminate effect?

Now the question facing any discussion of the conduct of Information Warfare (InfoWar) is: how is InfoWar *like* other forms of the exercise of power; how is it *unlike* the “traditional” exercise of power; and what, if any, are its *distinctive* characteristics?

In the last few years, serious and not-so-serious efforts have been made to answer this set of questions. Serious militarists have argued that InfoWar is *the* new means of strategic success and equally serious militarists have argued that it is “nothing but” a “New Age” slogan for the traditional combat service support function of secure and reliable battlefield communications made a bit more complex by computers.⁴ Less seriously, but probably more importantly, many people have grasped InfoWar as the Rumpelstiltskin Magic Word to open the State’s Gold Room and gather vast new missions, resources, personnel and toys for “their” InfoWar capabilities.

Even the normally army-dominated and conservative doctrine writers can catch the InfoWar fever. In the authoritative US Joint Publication 3-13.1, *Joint Doctrine for Command and Control Warfare*, the central goal of C2W -- the Holy Grail of InfoWar is set forth in all its promise. JP 3-13.1 asserts that it “*may even be possible to convince the adversary that the US had ‘won’ prior to engaging in battle, resulting in deterrence and preempting hostilities.*”⁵ Alas, war without blood is fantasy. War is neither chess nor *Go*. Even if war were only *like* fencing, the purpose remains to defeat the enemy, killing him if necessary.

If, however, war and conflict “are aimed ultimately at *freedom of action*, the object being either to gain it, regain it or deprive the enemy of it,” then serious *meditation* or *sustained reflection* on “fencing,” as Beaufre demonstrated so well, repays the militarist’s efforts to understand the Art of War. More broadly, and the point of this essay, the willingness and discipline to explore an *analogy* like war + /- fencing can be very instructive, insight-producing, or, alas, even misleading. Facile analogies can be very misleading and facile analogies in the InfoWar literature are all too common. On the other hand, some of the most creative discussions of InfoWar are also based on analogical reasoning.⁶

It is, then, the thesis of this essay that asking whether the conduct of Information Warfare is *like* the conduct of war described in the Warring States era in ancient China (c. 403-221 BCE) by Sun-Tzu’s *Art of War* (Sun-zi ping fa) can provide strategic insight. It is not asserted, however, that InfoWar *equals* Sun-Tzu’s *Art of War*. This essay also asserts that the very “otherness” and “oddness” of the *Art of War* is its great appeal. It is a means to gain the critical distance or perspective to, like Dickson’s science fiction character “dealing with unreal things,” explore the “otherness” and “oddness” of a universe in which InfoWar can be seen as somehow “real.” It is, fundamentally, “serious play.”⁷

Much current military discussion and thinking in the United States and the West in general are occupied with the question of “asymmetrical” warfare. In general, the concept of potential military “asymmetries” between “modern” *versus* “Third World” nations tends to focus on the likelihood that technologically “weaker” actors will be forced to rely on either asymmetrical methods of “battle,” such as urban guerilla warfare, or asymmetrical “weapons,” such as chemical / biological terror actions, the purposive generation of refugee flows or humanitarian crises or, in some cases, information warfare. InfoWar is seen as a particularly attractive option for “rising” regional powers as (1) Western militaries, especially the US and NATO, are increasingly dependent on information technologies to conduct “expeditionary” military operations and (2) information technologies are proliferating world-wide, often driven by Western commercial interests.

On the other hand, the true asymmetries which will confront US and Western expeditionary military operations may not be technological. It may not be that they “have” the technologies for InfoWar, but that they may be prepared to “conduct” InfoWar in ways we find difficult to “imagine.” Two asymmetries in particular will be unusually challenging. One asymmetry might best be called “contravalent” and will refer to the possibility of conflict and a “way of war” flowing from totally asymmetrical “value systems.”⁸ Why men fight, what men fight for, and how men fight may be far more “culturally dependent” than the scientific/technological and “rational” Western militaries care to admit.⁹ Clearly, the US was totally unprepared for the “fanaticism” of the Japanese *kamikaze* or the “irrational” approach to war (not “battle”) of the Vietcong. Equally mysterious is how the Serbian “fanatics” can be so willing to conduct “criminal” attacks, which show a “complete disregard” for “innocent” women and children. Rape, as asymmetric contravalent warfare cannot be addressed simply by labeling adversaries as “war criminals.” In the universe of InfoWar, a contravalent notion of “truth” will be a particular challenge.¹⁰ It is not at all clear that we have the vaguest understanding of how “*to convince the adversary that the US had ‘won’ prior to engaging in battle, resulting in deterrence and preempting hostilities.*”

The second asymmetry, and the focus of this essay, may be even more difficult to comprehend. It might best be called “metaphysical” or “epistemological” as it flows from a totally different “model” of how the universe “works” and how men “know” how to “work” in the universe. This asymmetry strikes at the very heart of the notion of InfoWar. Clearly this was not a problem when “war” involved only the “Clausewitzian” Euro-American nation states.¹¹ We pretty much understood one another. And, so long as Western technological superiority continued, military actions in the colonial era hardly counted as “real” war. Many fierce “battles,” of course, but not “really” war. When, however, something approaching technological parity develops between the Euro-American militaries and “them,” the “metaphysical” or “epistemological” asymmetries may become increasingly relevant.

Thinking about “metaphysical” asymmetries in war and warfare might best be approached by the study of the classical military writings of the great civilizations. How many Euro-American strategists are familiar with the Hindu/Indian classic on war the *Mahabharata* or have made any effort to explore several centuries worth of Islamic studies of war and battle? This essay serves as a modest introduction to perhaps the greatest Chinese strategist, Sun-Tzu, to illustrate the importance of the “metaphysical” in military thinking.

LEARNING WITH SUN TZU

Sun Tzu (Wade-Giles rendering of Chinese characters) or Sun Si (current Pinyin system used in China) probably lived during the Chou/Zhou dynasty at the end of the “Spring and Autumn” era (770-476 BCE) or the beginning of the “Warring States” era (475-221 BCE) – thus, +/- 5th century BCE. The absence of any discussion of mounted cavalry argues for the earlier period. The discovery in 1972 of a copy of Sun Tzu’s “Art of War” (*Sun-zi ping-fa*) in a Han dynasty tomb (140-118 BCE) essentially identical with the current thirteen chapters argues that the “Art of War” as known today is authentic. Whether Sun Tzu himself wrote it or, like most of the writing we attribute to Aristotle, it was written by his students or disciples remains unknown.¹²

THE “METAPHYSICAL” ASYMMETRY

Let’s ask an odd question. “What must the world be like for the theory describing it to be seen as true?” That is, if I have a theory of “magic” and I wave my “magic wand” over the hat, a rabbit better hop out. For the theory of magic to be true, the “world” must contain hats with rabbits in them. My “magic” won’t work in a world with no rabbit-filled-hats. Thus, it must be considered that InfoWar will not “work” in a “world” that has had, and arguably still has, a totally “other” metaphysic and, more to the point, a totally “other” epistemological model of “information.”

In the Chinese military classic *Questions and Replies Between T’ang T’ai-tsung and Li Weikung*, Li Ching observes:

If one has a state and a family, how could he not discuss attacking and defending? For attacking does not stop with just attacking their cities or attacking their formations. One must have techniques for attacking their minds.

So far, so good. We can appreciate that Li Ching might have been an ancestor of InfoWar. However, he goes on to observe:

Now attacking their minds is what is referred to [by Sun Tzu] as “knowing them.” Preserving one’s *qi* is what is meant by “knowing oneself.”¹³

Preserving one’s *qi* is not usually part of Euro-American strategic thinking. It is, however, central to Chinese and, in general, Asian strategic thinking and reflects a distinctive “metaphysical” asymmetry.

Western metaphysics, that is, what is the primary “bottom line” nature of reality, is essentially “dualistic.” Almost every Western philosophical system distinguishes “two” aspects of the world. Permit a brief list of familiar dualisms: Creator-created; Being-becoming; Forms-flux; Essence-accident; Theory-praxis; Natural Law-situation ethics; and Ideal-everyday reality. In essence, we divide the world between a “model” which stands outside (and provides a standard to order and judge everyday life) and the everyday world (Plato’s Cave) in which we live. The Chinese or Asian “world” in which Sun Tzu lived and the approach to military strategy he reflects is not “dualistic” in the Western sense but “monistic.”¹⁴

For the Chinese (certainly then and arguably still today) the “universe” is, indeed, a uni-verse, a “one” thing. What “is” is. Neither we humans nor anything else stand “outside” existence. Moreover, everything that “is,” is *qi* in constant transformation. While the West might distinguish “matter” from “energy,” the Chinese note that “matter” is merely “materialized” or easily observable *qi*, like a stone or military formation, and “energy” is not-yet-materialized *qi*, like Spring and Summer, “spiritual holiness,” or the strategic plan in the commander’s mind. What “is” is matter/energy (*qi*) in constant, mutually influencing/interacting transformation (*yin/yang*). Thus, the one book that captures this, and continues to baffle the Western mind, is the thousands-year old *I Ching*, the “Book of Changes.”¹⁵

For the Chinese, and Sun Tzu, this means that we humans do not stand “outside” our universe. In contrast to Western epistemology, there is no possibility of a privileged Archimedean “outside” standard by which to observe, judge or understand “reality.” There is no “information realm” in which to conduct InfoWar as a separate “cyber-space.” For the Chinese, the “state” or “configuration” of the universe - that is, matter/energy (*qi*) in constant, mutually influencing/interacting transformation (*yin/yang*) at any given moment in time is called *Dao*. “We” “are” in a particular state or condition “now,” and “we” “are” in a particular state or condition “then.” Thus, “we” “are” best understood as a particular set of relationships at a particular time and place. That the essence of “war” is fundamentally a relationship is, in principle, familiar to any Western strategist. The common Western phrase “system of systems” would probably be translated conceptually into Chinese as “the relationships among the relationships.”

The “state” or “configuration” of the universe at any given time or place is *Dao* – the “Way.” (*Dao de jing* – The Way and its Power) Everything that is, from Earth to the Heavens, and every being and activity, has its own particular and unique “way” to figure-out, navigate or prosper/decline as part of the “Way.”

Sun Tzu opens his *Art of War* with the basic premise: “Warfare is the greatest affair of state, the basis of life and death, the *Dao* to survival or extinction.”¹⁶ Unlike our Western or modern prejudice that warfare is the “deviant” condition and only an unfortunate interruption of the “normal” state of peace, for Sun Tzu “warfare” not only “is,” but more importantly, is the “Way” of survival and extinction for humans-in-community, the state. As warfare is the basis of life and death, of course it is the greatest affair of state, and of course “it must be thoroughly pondered and analyzed.” That is to say, the study of warfare, the basis of life and death, is the study or figuring-out and navigating the “way” of warfare within the study or figuring-out of the “Way.”

As the “Way” is a particular set of relationships obtaining at a particular or unique time/space, the “Art of War” or strategy is radically contextual, situational and relational. There are no *a priori* “rules” or “laws” of warfare. This single insight is the key to understanding the asymmetry of Chinese or Asian strategic thinking. If, when, how, where, “this” war is to be fought in “this” manner or with “these” weapons depends, in essence, on the *Dao* of “this” war in relation to the *Dao* itself. There is no way to tell ahead of time whether nuclear attack, InfoWar, deception & denial, or whatever “warfighting” means available might be used.

The “goal” or purpose of warfare is to secure the survival of and, by implication, benefit to the state. It is a fundamentally “conservative” or “order restoring” activity. Expansionism or conquest are concepts that appear very rarely in classical Chinese strategic writing and are totally absent in Sun Tzu. Thus, for Sun Tzu, the priority for military actions is clear. If possible, and in complete opposition to the normal Western approach, “subjugate the enemy army without battle,” “capture cities without siege,” “destroy the enemy state without prolonged fighting,” or, in general, “take the enemy intact.” If, however, this is not possible, **win the battles**. Only a strong, well-equipped and well-trained military capable of winning battles can provide ultimate security for the state.

The *Dao* itself is the particular set of relationships obtaining at a particular or unique time/space. Thus, Sun Tzu begins chapter one of the *Art of War*, “Initial Estimations,” with the requirement for a careful, rational study of the particular and unique relationships between

“the state” and its adversary at this time and place. We need to examine these “five factors” and answer these “seven questions.”¹⁷ In Sun Tzu’s universe there were “five elements,” “five musical notes,” “five grains,” “five colors,” and “five flavors or tastes” which captured the full range of transformations possible and, yet, were inexhaustible. It should be no surprise that Sun Tzu begins his study of the greatest transformation, life and death, with the requirement to examine the “five factors.” And, of course, it is the constant, mutually influencing/interacting transformation among these five strategic factors, which is crucial.

We must retire to a private room in the state temple and “calculate” (the Chinese character implies “grind out”) the quantity and quality of our answers to the factors and questions in relationship to the adversary’s answers. Why intelligence and spies are essential for Sun Tzu (his last chapter) is obvious, then, in his first chapter. Only when, to borrow a phrase from the Russians, the “correlation of forces” – understood here as *qi* in its particular “incarnation” – is running in our favor can we decide, rationally, for war.

SERIOUS PLAY

How then might we “meditate” or “reflect” with Sun Tzu on InfoWar in these first few paragraphs? How can we think about the *Dao*, *Tien* (the heavens), *Di* (the earth), *Jiang* (leadership), and *Fa* (organization)? The “info-warrior” might begin by asking, “what is the Information component in each of these factors on the adversary side which can be attacked” and “are we able to protect the Information component of these factors on our side?” Hmm? Not very helpful.¹⁸

Moving to Chapter Two then, “Planning Offensives,” the info-warrior might identify the Information component of the adversary’s (1) strategy, (2) his “alliances” or support, (3) his military forces, and (4) his “cities.” Perhaps an “information warfare” matrix can be developed.

5 Factors	Moral Order (dao)	Heaven (tien)	Earth (di)	Leadership (jiang)	Organization (fa)
<i>4 Targets</i>					
<i>Strategy</i>					
<i>Alliances</i>					
<i>Armed Forces</i>					
<i>Cities</i>					

The conduct of warfare recommended by Sun Tzu continues his conservative “preservationist” theme. The “highest” realization of warfare is to attack the enemy’s plans or strategy. Failing that, attack his alliances. Failing that, attack his army. Failing that, then and only then, attack his cities.

In the context of 21st century Information Warfare the highest realization of warfare might be to attack, via direct info attack, the information (data, plans, programs, etc.) required for the execution of the adversary’s strategy. Each of the five factors must be examined. For example:

(1) What information and information systems maintains the adversary *Dao*? Can the unity between the government and the people required to support the strategy be attacked through the information system? Could a certain “unorthodox” information operation be conducted to cause his media to report that his army has attacked defenseless civilians? In essence, attack the information on which the adversary *Dao* depends. And, of course, take steps to project your own.

(2) If his strategy depends on certain knowledge of weather conditions, then “destroy the tallies” and cease all weather reporting. Conduct military actions during times when his weather information is inadequate and develop weapons to deny the enemy the ability to use weather information. Should, for example, one prepare to conduct operations without the aid of the Global Positioning System (GPS) on which most of the planet’s armed forces increasingly rely? Any soldier knows this.

(3) The common reading of what Sun Tzu calls *di* is “terrain” but Sun Tzu provides a full discussion of military or battlefield terrain in chapter ten. Perhaps if we remember that Sun Tzu wrote in a time when *di* or “the earth” was the basis of agriculture and agriculture was the foundation of state power, then in our contemporary fundamental strategic assessment *di* could be read to mean “the conditions which sustain the power of the state to conduct war and maintain the people’s support.” Thus, the info-warrior would attempt to discover what information and information systems provided the basis of the adversary’s state power and his ability to execute his strategy. Is it his banking system? His communication system? His electrical and transportation system? The model of the air campaign developed by Col. John Warden might give us a template with which to start an analysis.¹⁹

(4) *jiang* in the Zhou era meant the “leadership” in general, not just the military leadership. The info-warrior must discover what information, by what channels, by what processes, through which persons, the adversary *jiang* gets the information required to execute the strategy. Who or what are the mediators through which the adversary leadership gets its information? The five types of spies of chapter 13 come to mind and any contemporary intelligence officer or info-warrior must have been assigned this “mapping” task.

(5) *fa* is the most traditional concept. Normally it is read as the “forces and capabilities” available to execute the strategy. For the info-warrior, however, *fa* might be read as the adversary “command and control” system – electronic or otherwise. How to penetrate, disrupt or influence the *fa* required for troop mobilization, troop deployment, and command & control in battle is the chief task.

Working through the matrix, line by line and column by column for both “knowing ourselves” and “knowing the enemy,” evaluating the relationships of each “box” with the adversary box, and then “doing the comparative totals” permits an informed judgement as to whether “this” action, at “this” time, in “this” way, etc. is, as the Chinese might say, “propitious.” Is this “strategy by fortune cookie” or “insight provoking?”

After working each box in the top line, and failing to disrupt the adversary plans or strategy, our Sun Tzu inspired infowarrior would attack next the “alliances.” In addition to the obvious and clear meaning of “alliances,” the contemporary infowarrior might consider alliances as the supporting military *joint* and *coalition* information infrastructure on which the adversary

depends. Reports on the complexity of communications and command & control “alliance” operations in the Kosovo operations will be studied carefully for asymmetric vulnerabilities.

Failing to disrupt either strategy or “alliances,” the info-warrior will attack the “army.” At the most obvious level, this is command & control warfare (C2W) and the C2W-systems by which the adversary executes his military operations.

All these failing, then and only then, attack his “cities” -- understood by the infowarrior as the entire civilian (political, economic and social) information infrastructure which sustains both popular support for the adversary state and the “base” essential for the adversary to project forces.

If “Information Superiority” in the 21st century is both a major factor of wealth generation and a vital requirement for the ability of the Western Alliance to project power in an expeditionary manner, then attacking the “domestic” and “non-military” information “substructure” on which the execution of our strategy depends is a key factor in Information Warfare.²⁰

In each case of war or conflict, the info-warrior must fill-in all the spaces in the matrix. And, as Sun Tzu advised, if you do not have the information you need or if you cannot fill-in the matrix, war is too risky.

Continuing our “serious play:” - while warfare is the “way” to survival or extinction of the state, warfare itself, like pottery, farming, family life, or any human activity, must have its own distinctive “way” if it is to be “congruent” with the “Way.” For Sun Tzu, the Chinese, and Asia in general, “Warfare is the *Dao* of deception.”²¹ Thus, immediately in chapter one Sun Tzu begins his well-known listing the various tactics, techniques and procedures of deception familiar to readers of the *Art of War*, aspirant infowarriors, and any veteran of the Vietnam war: display incapability; feign inactivity; attack where they are unprepared; go where you’re not expected; etc. The “way” of warfare is deceit, dishonesty, trickery, ruse, ambush, trap, lies, surprise attack, feigned retreat or surrender, collaboration, treason, and any other way to manipulate the “laws of armed conflict” which attack the adversary’s *qi* and cloud his mind.

The “way” of warfare is to attack the adversary’s mind – in a word, to conduct Information Warfare.²²

“These are the ways military strategists are victorious.” But, Sun Tzu quickly adds a phrase that puzzles the Western reader, “they cannot be spoken of in advance.” Why not? Why cannot we develop “doctrine” to conduct information warfare? The answer is that any warfare conducted by a predetermined set of tactics, techniques and procedures will fail because it is not in conformity with the “Way.” That is, the conduct of war and battle is radically contextual, situation-dependent, and relational. Whatever the occasion for *this* war or battle, the objective of war or battle remains life or death for the community. Thus, winning battles is fundamentally secondary in conducting wars. With the exception of a few ambushes, the Vietcong lost every “stand up” battle with US forces. This was asymmetric information warfare – conducted by attacking the adversary’s *qi* – and won by the *Dao* of deception.

FOUR KEY CONCEPTS IN SUN TZU'S *ART OF WAR*

Four concepts in the *Art of War* and classical Chinese military writings may be particularly asymmetric from the normal Western assumptions about military operations: (1) the independence of the military, (2) “strategic military power,” (3) the disposition of military forces, and (4) the unorthodox and orthodox.²³ All require serious reflection by a contemporary infowarrior as the well-known phenomenon of “mirror imaging” is likely to provoke a serious misunderstanding of observed behaviors.

Perhaps the most asymmetric concept from the contemporary Western idea that “the general” (the armed forces) are always subordinate to the civil authorities, even in wartime, is Sun Tzu’s claim that once “war” is declared, “the general” (seen as fielded military forces) cannot be interfered with. Orders from the civil authorities to advance, retreat or engage in battle may be ignored. While this may seem “undemocratic” and a fatal threat to civil-military relations, Sun Tzu’s logic is rooted in his “metaphysical” assumptions. That is, if navigating the *Dao* is radically contextual, situational and relational, and this war is radically contextual, situational and relational, then this battle is also radically contextual, situational and relational. Only the commander “on the ground” has the “situational awareness” to judge what needs to be done to “preserve” the state. Improved modern communications do not change the logic. Indeed, President Bush was praised by the US military for his conduct in the Gulf War. That is, he set the grand strategic/political goal and trusted his field commanders to conduct the appropriate military operations. The criticism of President Johnson’s hyper-detailed “interference” with the bombing campaigns during the Vietnam War is well known and quiet complaining about “air order tasking by committee in Brussels” is beginning to be heard.

The contemporary implication of this Sun Tzu model may be that the Western infowarrior will not encounter a command & control system which if attacked at the “head” will disrupt the adversary’s military operations. Indeed, it might be argued that the “independence of the general” is exactly what is implied by current arguments for a “distributed” decision-making command & control model. Improved communication systems do not invalidate the logic of contextual, situational and relational decision-making. “Centralized control and decentralized execution” may need to be rethought.

The second key concept is “strategic military power.” The Chinese character is *shi* and, depending on the requirements of rendering it into English, is also translated as force, strength, authority, influence, power, advantage, etc. As the concept is so central and common in the *Art of War* and other classical Chinese military writings, all good translators will insert (*shi*) next to the English word or phrase used to translate it. In general, *shi* refers to the strategic and operational advantage resulting from a combination of the “mass” and “superior positioning” of military forces.²⁴ *Shi* is thus always contextual, situational and relational. A standard comparison of “forces and capabilities” is irrelevant as to which side has “strategic military power” at any given time, place or situation.

The third key concept is the “disposition of military forces” (*qiang*) and, like *shi*, can be variously translated. In general, *qiang* is the actual operations or maneuvers conducted by the army which attempt to “shape” the adversary into a “form” which can be exploited. Again, *qiang* is always contextual, situational and relational. The goal is to conduct operations which “shape” the adversary into a mistaken *qiang* which can then be exploited. As Sun Tzu

observed, “One who excels at moving the enemy deploys in a configuration (*qiang*) to which the enemy must respond.” Now, to “shape” the enemy will require the most exquisite conduct of InfoWar. Warfare is, after all, the *Dao* of deception and “attacking their minds” is thus a central aspect of *qiang*.

The T'ai-tsung said: “I observe that the thousand chapters and ten thousand sentences [of the military writings] do not go beyond ‘Use many methods to cause them to make errors,’ this single statement.”²⁵

The fourth concept is the pair unorthodox and orthodox. *Qi* (a different Chinese character than *qi* –the “life force/matter/energy”) and *zheng*. In general, *qi* and *zheng* are just a way of thinking about how to operate within and exploit the enemy’s dispositions (*qiang*) and expectations. It is far too narrow to translate the concept as “regular” and “special operations” forces – although regular and special ops are implied. In general, *qi* and *zheng* reflect the “metaphysics” of “one-world” of constant transformation and mutual interactions (*yin/yang* – *qiang/shi*). A Sun Tzu adversary will not have a disposition of forces (*qiang*) or “Table of Organization and Equipment” which will permit Markov-like chains of prediction. One must expect the Sun Tzu adversary to conduct a constant, situation dependent and consistently deceptive “shifting” between *qi* and *zheng*.

The [musical] notes do not exceed five, but the changes of the five notes can never be fully heard. The colors do not exceed five, but the changes of the five colors can never be completely seen. The flavors do not exceed five, but the changes of the five flavors can never be completely tasted. In warfare the strategic configurations of power (*shi*) do not exceed the unorthodox and orthodox, but the changes of the unorthodox and orthodox can never be completely exhausted. The unorthodox and orthodox produce one another, just like an endless cycle. Who can exhaust them?²⁶

In essence, Sun Tzu’s *Art of War* reflects a “world” called *Dao*: a world of context, situation and relationships which are constantly in transformation through mutual interactions and mutual influences. War is the *Dao* of survival or extinction and thus “war” “is.” The *Dao* of warfare is not “outside” the *Dao*. “Warfare is the *Dao* of deception.” There is no “ideal” model of strategy and no possibility of military “doctrine” which can be applied apart from context, situation and relationship to the enemy. Although it may be an apocryphal tale designed to criticize the US Air Force for not taking “doctrine” as seriously as the Army, there may be great wisdom in the reply of the USAF general who, when asked “what is Air Force doctrine on ...” replied “It depends.” The “Art of War” may indeed be adapting to a context, situation or set of relationships through *qiang*, via *qi* and *zheng*, to produce the *shi* which gives “life” and “survival.”

CONCLUSION

The thesis of this essay has been that asking whether the conduct of Information Warfare is *like* the conduct of war described in the Warring States era in ancient China (c. 403-221 BCE) by Sun-Tzu’s *Art of War* (Sun-zi ping fa) can provide strategic insight. It was not asserted, however, that InfoWar *equals* Sun-Tzu’s *Art of War*. This essay also asserted that the very “otherness” and “oddness” of the *Art of War* is its great appeal. That to explore the

“otherness” and “oddness” of a universe in which InfoWar can be seen as somehow “real.” is, fundamentally, “serious play.”

Earlier we asked an odd question “what must the world be like for the theory describing it to be seen as true?” Perhaps we might rephrase the question to “what kind of world or future operating environment is assumed by the theorists of InfoWar?” In general, the “world” in which InfoWar would be “true” seems very much like the “world” described as *Dao*. The infowarrior is not “outside” but, rather, operates “in” a “world” of context, situation and relationships which are constantly in transformation through mutual interactions and mutual influences. Whether the “world” is described as the “net,” the “web,” the “mesh” or whatever; and whether the infowarrior is a “node” a “knot” or an “island in the net,” the infowarrior is “in” and “of” the *Dao*, not outside. Perhaps the “world” of Sun Tzu is a far more accurate description of the Information Age “world” than we usually suspect. It is not accident, then, that military strategists attempting to deal with war in the Information Age seem to recognize the “contemporary” quality of the *Art of War*.

REFERENCES

Bibliography on Chinese Strategic Thinking

Chinese Strategic Culture

The Seven Military Classics of Ancient China, (Ralph D. Sawyer, translator) (CO: Westview, 1993), ISBN 0-8133-1228-0, (the one book in this entire list you must own. Includes Sun Tzu.)

Art of War, (Ralph D. Sawyer, translation & commentary), (CO: Westview, 1994), ISBN 0-8133-1951-X, (excellent introductory material and footnotes)

Sun Tzu - The Art of War, (Samuel B. Griffith, translator), (NY: Oxford University Press, 1971), ISBN 0-19-501476-6, (version most familiar to military readers. Brig.Gen. Griffith, USMC, foreword by B.H. Liddell Hart)

Sun Tzu on the Art of War, (Lionel Giles, translation & commentary), (Singapore: Graham Brash (Pte) Ltd., 1993), ISBN 9971-49-107-9, (first published in 1910 {and thus in the public domain, and thus available on the Internet to download} This is the classic and very scholarly first major translation into English).

Sun-Tzu The Art of Warfare, (Roger T. Ames, translation & commentary), (NY: Ballentine, 1993), ISBN 0-345-36239-X, (first English translation incorporating the recently discovered Yin-ch üeh-shan texts. Full scholarly apparatus).

Sun Tzu: The Art of War, (Thomas Cleary, translation & commentary), (Boston: Shambhala Publications, 1988), ISBN 0-87773-452-6, (philosophical translation; locates work in Daost canon).

Sun Tzu's Art of War, (Yuan Shibang, translator; commentary by General Tao Hanshang)

(NY: Sterling Publishing Co., 1990), ISBN 0-8069-6639-4, (commentary by professor at Beijing War College, PRC)

Sun Tzu: The New Translation, (J.H. Huang, translation & commentary), (NY: William Morrow, 1993), ISBN 0-688-12400-3, (especially detailed discussion of alternate meanings of Chinese characters)

Sun Tse: L'Art de la guerre, (Texte traduit par Jean-Jacques Amiot), (Paris: Pocket, 1993) ISBN 2-266-05098-2, (text of the original Père Amiot translation (1772); excellent commentary by contemporary French strategic thinkers, e.g., Gérard Chaliand, Alain Joxe, etc).

Sun Zi – L'Art de la guerre, (Valérie Niquet-Cabestan, traduction et édition critique), (Paris: Economica, 1988), ISBN 2-7178-1377-2, (excellent current French translation with critical apparatus).

Other Suggested Readings on Chinese Strategic Thinking

Sun Pin - Military Methods, (Ralph D. Sawyer, translation & commentary), (CO: Westview, 1995), ISBN 0-8133-8888-0, (elaboration of *Art of War* by Sun Tzu's grandson. Excellent introduction and footnotes).

Sun Pin – The Art of Warfare, (DC. Lau & Roger T. Ames, translation & commentary), (NY: Ballantine Books, 1996), ISBN 0-345-37991-8, (elaboration of *Art of War* by Sun Tzu's grandson. Excellent introduction and footnotes).

Mastering the Art of War: Zhuge Liang & Liu Ji, (Thomas Cleary, translation & commentary) (Boston: Shambhala, 1988), ISBN 0-87773-513-1, (among the Chinese, Zhuge Liang is as well known as Sun Tzu. See the chapter 'The Art of War and the I Ching: Strategy & Change', pp.10-29).

The Wiles of War: 36 Military Strategies from Ancient China, (Sun Haichen, translation & commentary), (Beijing: Foreign Languages Press, 1993), ISBN 0-8351-2795-8, (exactly what the title says – Strategy = wiles or deception).

Les trente-six stratèges: traité secret de stratégie chinoise, (traduit et commenté par François Kircher), (Paris: Rivages poche, 1995), ISBN 2-86930-905-8, (excellent commentary. The 36 strategies are based on texts taken from the *I Ching*).

***I Ching* or 'Book of Changes' is central to classic Chinese thinking**

The I Ching or Book of Changes, (Richard Wilhelm translation – rendered into English by C.F. Baynes, foreword by C.G. Jung), (Princeton Univ. Press, 1950 {numerous reprintings}), ISBN 0-691-09750-X

Wilhelm, Helmut & Richard Wilhelm, *Understanding the I Ching*, (Princeton Univ. Press, 1988), ISBN 0-691-00171-5

NOTES

- ¹ The views expressed in this paper are those of the author and do not represent officially held views of the US Government, the Department of Defense, the USAF, or the Air War College
- ² Dickson, Gordon R., *Tactics of Mistake*, (NY: Ace, 1981), p.12.
- ³ Beaufre, André, from: ‘An Introduction to Strategy’, excerpted in: George E. Thibault (ed.), *The Art and Practice of Military Strategy*, (DC: National Defense University Press, 1984), pp.204-223.
- ⁴ The literature in English on InfoWar is massive. Permit me to at least list some of my own contributions.
- US Information Warfare: Jane’s Special Report*, (London: Jane’s Information Group, 1996).
- ‘Information Warfare: Words Matter’, in: Stocker, G. & C. Schöpf (eds.), *InfoWar*, (New York & Vienna: Springer, 1998); pp.51-59.
- ‘InfoWar:Worte zählen’, in Stocker, G. & C. Schöpf (eds.), *Information.Macht.Krieg*, (New York & Wien: Springer, 1998); pp 57-66. [German edition of previous citation]
- ‘Information Attack: Information Warfare in 2025’, *Air University. 2025 Study: Power and Influence*, (Maxwell AFB, AL: Air University Press, 1996; pp. 91-115. (White Papers; v. Vol.3, Book1).
- ‘Information Warfare’, in: Campen, Alan D., D.H. Dearth & R.T. Goodden (eds.) *Cyberwar: Security, Strategy and Conflict in the Information Age*, (Fairfax VA: AFCEA International Press, 1996); pp.175-183.
- ‘Information War - Cyberwar – Netwar’, in: Schneider, B.A. & L.E. Grinter (eds.), *Battlefield of the Future: 21st Century Warfare Issues*, (AL: Air University Press, 1995); pp.153-170.
- ‘Information Warfare’, *Airpower Journal*, 9:1 (Spring 1995): 30-39.
- ⁵ Joint Pub 3-13.1, *Joint Doctrine for Command and Control Warfare (C2W)*, (7 February 1996), p. I-5.
- ⁶ Kelly, Kevin, *Out of Control: The Rise of Neo-Biological Civilization*, (NY: Addison-Wesley, 1994).
- ⁷ The best discussion of ‘serious play’ remains: Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture*, (MA: Beacon Press, 1986).
- ⁸ The admitted neologism ‘contravalent’ was first applied to information warfare by Air Vice-Marshal R.A. Mason (RAF, ret’d).
- ⁹ van Creveld, Martin, *The Transformation of War*, (NY: The Free Press, 1991).

-
- ¹⁰ Voegelin, Eric, 'Necessary Moral Bases of Communication in a Democracy', in: Marquette University Press, (ed.), *Problems of Communication in a Pluralistic Society*, (WI: Marquette University Press, 1956), pp.53-68.
- ¹¹ Pellegrini, Robert P., *The Links between Science and Philosophy and Military Theory*, MA Thesis, (Maxwell AFB, AL: School of Advanced Airpower Studies, 1995).
- ¹² See the attached bibliography for an introductory guide to Sun Tzu's *Art of War*.
- ¹³ The *Questions and Replies* is one of the 'Seven Military Classics' and, as a later work that the other six, often serves to restate and amplify previous writers, including Sun Tzu. *The Seven Military Classics of Ancient China*, (Ralph D. Sawyer, translator) (CO: Westview, 1993), p.353.
- ¹⁴ Most contemporary scholars recognize the centrality of this 'epistemological' difference as the chief hindrance to Western appreciation of Asian thought. The author of this essay has relied on three mutually supporting but quite distinctive discussions of the uniqueness and holistic / monistic aspects of Eastern thought. See the introductory commentaries in:
Sun-Tzu – The Art of Warfare, (Roger Ames, translator)
(NY: Ballantine Books, 1993),
Sun-tzu Art of War, (Ralph D. Sawyer, translation & commentary)
(CO: Westview, 1994), and
Sun Tzu: The Art of War, (Thomas Cleary, translation & commentary),
(Boston: Shambhala Publications, 1988).
- ¹⁵ See: 'The Art of War and the I Ching: Strategy & Change', *Mastering the Art of War: Zhuge Liang & Liu Ji*, (Thomas Cleary, translation & commentary), (Boston: Shambhala, 1988), ,” pp.10-29.
- ¹⁶ *Sun-tzu Art of War*, (Ralph D. Sawyer, translation & commentary), (CO: Westview, 1994), p.167.
- ¹⁷ Ibid.
- ¹⁸ although, in the spirit of 'serious play', consulting a Chinese-language dictionary can be 'insight producing'. The Chinese symbol (幘) translated here as 'organization' has its root in the concept "to flow like water." It should not be surprising then that Sun Tzu will often refer to organizing a maneuver so that it "flows like water." See the on-line dictionary character-by-character analysis of the *Sun-tzu ping fa* at: <http://www.zhongwen.com>
- ¹⁹ Warden, John A., 'The Enemy as a System', *Airpower Journal*, (Spring 1995), 9:1, p.40.
- ²⁰ The literature on this topic is well known. See especially:
Arquilla, John & David Ronfeldt, (eds.), *In Athena's Camp: Preparing for Conflict in the Information Age*, (CA: RAND, 1997), and:
Khalilzad, Zalmay M. & John P. White, (eds.), *The Changing Role of Information in Warfare*, (CA: RAND, 1999).
- ²¹ *Sun-tzu Art of War*, (Ralph D. Sawyer, translation & commentary), (CO: Westview, 1994), p.168.
- ²² See also: Sawyer, Ralph D., *The Tao of Spycraft: Intelligence Theory and Practice in Traditional China*, (CO: Westview, 1998).
- ²³ See the discussions of these distinctive concepts in Sawyer, Ames and Cleary.

-
- ²⁴ See footnote 158 of 'Notes to the Introduction', of *Sun-tzu Art of War*, (Ralph D. Sawyer, translation & commentary), (CO: Westview, 1994), p.292.
- ²⁵ *Questions and Replies* in: *The Seven Military Classics of Ancient China*, (Ralph D. Sawyer, translator) (CO: Westview, 1993), p.351.
- ²⁶ *Sun-tzu Art of War*, (Ralph D. Sawyer, translation & commentary), (CO: Westview, 1994), p.187.