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The Strategic Keyboard

A Model to Relate the Principles of War

Commander Guillermo R. Delamer, Argentine Navy

It is not enough to determine the objective, the ally, the enemy, in order to profit by the victory. If the intelligence of the State has not clearly determined its goals, and discerned the true nature of enemy and ally alike, the triumph of weapons will only by accident be an authentic victory, that is, a political one.

Raymond Aron
*Peace and War: A Theory
of International Relations*, 1966

IN ANY CONFLICT, there is a struggle of wills that is resolved through strategy—which, by definition, is the art and science of developing and using the political and economical power of a nation, together with its military force, to secure national objectives.¹ The first question that arises is, how are means and ends related? Then, how does one manipulate the political, economic, and military means or resources to effect desired ends?

To help one understand the means-ends relationship, a simple model might be helpful. In Figure 1 the overall square form represents the conflict between opposing nations or coalitions; each will use available means (resources) for reaching what it perceives to be in its best interest, a desirable end. Superimposed on the square is the classic Clausewitzian model, wherein political, economic, and military means are linked in a triangular matrix. In this matrix the political element coordinates economic and military resources, and the three combined work to achieve a national objective.²

Ends and means are connected through *rationality*, the exercise of latent or active mental power to make logical inferences and to draw conclusions; it

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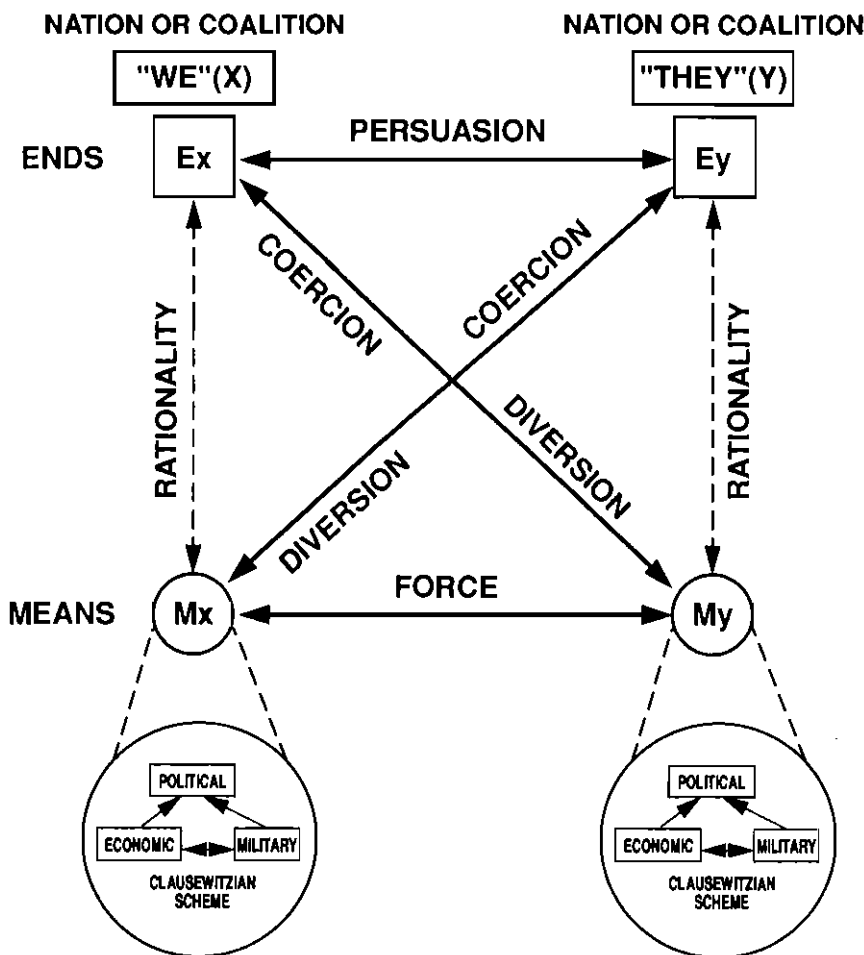


Figure 1

is the faculty that enables one to understand one's world, and, using this understanding, to obtain desired ends.³ A strategy is rational if it defines its objectives and tries to relate "ends" and "means." Here we are not making moral judgements about the quality of ends. Most people do not consciously act irrationally. Most people do not pursue means that are contrary to the ends they seek. They may employ contrary means, but they do so inadvertently and unwittingly.

Even if one carefully selects means appropriate to the ends sought, the fact that one's opponent is presumably doing the same thing may still defeat even the most rational of strategies. It is therefore important to understand one's adversary's ends and the way in which he evaluates the ends-means relationship. Too often we dismiss from consideration an opponent's possible strategy because

we fail to appreciate both the nature of his ends and the opportunities and limitations of his own strategic environment. It is thus possible for us to “achieve” our objective but find that the adversary has “won.”

Westerners tend to be heavily influenced by what some call an “economic value system.” That is to say, Westerners look at the risks and costs of this world in a purely secular, temporal way. We weigh costs, benefits, and risks, and do so only within a context of mortal life. We are, therefore, perplexed when someone pursues a political end which involves the notion of martyrdom. Therefore, when we begin to plan our strategy with or against someone, we should understand that he may pose for himself a goal that may cause him to use means which, apart from that goal, may appear totally irrational. His “irrational” actions, however, may be perfectly consistent with his value system, albeit different from our own.

It may therefore not be enough simply to relate one’s own means and ends in order to achieve one’s objectives in any single strategic interaction. It may also be necessary to influence the opponent’s scale of values and thereby modify his behavior. To achieve this it is necessary to understand his value system. Despite what many saw as utterly incommensurate values and thus fragmented communication between the U.S.S.R. and the U.S.A. during the Cold War, in fact the standard of rationality of the two sides (i.e., the risk-cost-gain calculus) was mutually intelligible. Moreover, the dynamics of the Cold War reduced the barriers of understanding—which is not to say that the ends became utterly compatible, but that the logic of the competition was clear. Indeed, by 1990 there had occurred some changes in the scale of values and mode of behavior themselves. In strategic competitions such as that between the West and the various Arab states, it is legitimate to ask whether there are at work cultural differences that so alter the perception of ends that the evaluation of means is fundamentally different for both sides. We may also ask: if perceptions are not completely incommensurate, what is the range of difference?

Interaction of Ends and Means

What are the theoretical ways of correlating ends between contending sides? In strategy there are several approaches that one can take with regard to an opponent, for thinking about him and what one wants him to do. There are two sides to the coin: I want him to allow me to get what I want, or I want him to stop doing what he is doing that I find inconvenient or difficult for me. One way is to get him to change his ends. How can I do that? First, I can *persuade* him that it is in his interest and in line with his values to abandon the ends he now has that are incompatible with mine; or, I can attempt to persuade him of the justice of my ends, even for him. Another way to change another’s ends or

values could be the threat of force. This we call *coercion*, meaning compulsion to act, or not to.

Ultimately, the whole objective of my strategy is somehow to make the other side change his ends, to make these compatible with what I want; I normally do this through a combination of persuasion and coercion. Sometimes this will be achieved by simply showing the other party that what he is doing is not in accordance with his own values or interests. This is one part of the equation of the ends-means relationship.

As to the other part, I must consider that I may or may not be able to change the other's ends, but I must either cause him to change the means he is using, or I have to influence them; this is what we normally mean by strategy. I would have to apply my resources, such as diplomatic or economic power or military force, to orient his response into a predetermined pattern. The strategic interaction in this case results from the opponent doing something with his means, while I counter those in such a way as to cause him to fail.

It is thus important not only to relate my means to my ends; I must also think how I am going to change the other's ends or defeat his means in such a way that he no longer, because of lack of freedom of action, can achieve his desired ends. It is never sufficient only to defeat his means. It may suffice in the short term, but a strategy that looks further down the road will ask how one may act in a way that, in the process, causes the opponent to change the ends he is pursuing.

Finally, if someone perceives that he is in an unfavorable strategic position, he can *divert* his ends. Diversion works in two ways: shifting to new goals to adapt to his environment, or simulating fictitious ends to deceive the opponent. Diversion, essentially, is the act of drawing the opponent's attention and force away from the true center of gravity—a feint to divert his attention to a new issue that one can counter or manage.

There are several examples of the use of one or a combination of these elements. The case of Iraq versus the international community applies: first there was diplomatic and economic coercion, then military force, and today economic and military coercion is needed again to change Saddam Hussein's ends. Another example might be the East-West conflict. Nuclear deterrence is based on the premise of military coercion as it functioned during the Cold War; diversion also has been used by the Soviet Union under the name of *perestroika*. By changing its ends, the U.S.S.R. is trying to affect the actual strategic imbalance and the military and economic resources that the United States has arrayed against it.

The Strategic Keyboard

To Sun Tzu, the art of war was but music where notes were to be played in movements of a cosmic symphony. To carry the analogy further, the "Principles

of War” are like keys on a piano: military operations are “played” as discrete notes and combined in accordance with culturally or rationally acceptable patterns. The fundamental truths embodied in the principles of war have stood the test of time. Each nation adapts them to its particular use (Figure 2).⁴

These elements are brought together in what may be called the *Strategic Keyboard*. On this Keyboard all the principles of war are combined and related to each other (Figure 3), providing a framework with which to analyze various cases.

To begin playing, one must accept the premise that strategy, by definition, operates in the realm of uncertainty: three-quarters of the factors upon which the actions of war are based are wrapped in a fog of greater or lesser obscurity.⁵ Using *intelligence*, one fills in the gap between the guessed and the real world; in other words, one attempts to understand one’s opponent. Sun Tzu assigned intelligence a primary role when he asserted that in knowing one’s enemy as oneself, one will never be in peril.⁶

The variables that we employ in the strategic equation are: *resources* (such as political or economic power or military force), *space*, *time*, and *maneuver* (a function itself of space and time). These variables contain what we may call *dimensions* (Figure 4). Following the analysis through, one can see that force or power is applied in either a concentrated or divided way, and that an approach can be executed in a direct or indirect manner. According to Sun Tzu, “choosing one or another constitutes the art of maneuver,” a difficult choice.

Indeed, in a real sense maneuver is a key element.⁷ Maneuver is a complex factor that governs the order of and interrelationship between successive situations.⁸ It maximizes force while minimizing risks as it searches for the enemy’s weakest points, and when best executed is supported by *surprise*. Surprise in its turn, is an amalgam of three factors: *movement*, *secrecy* or *deception*, and *dispersion*. One cannot have surprise unless one’s forces are to some degree dispersed, are kept moving, and, finally, their composition and intentions are unclear to the enemy.

Using another approach, strategy is the abstract interplay which, to use Foch’s words, “springs from the clash between two opposing wills.” A battle of wills therefore boils down to a struggle in which each side tries to preserve its *freedom of action* and deny such freedom to the enemy. All actions are aimed ultimately at freedom of action—the objective being either to gain it, regain it, or deprive the enemy of it. In the end, the essence of strategy is the struggle for freedom of action.⁹

When I mobilize my means to realize my ends in order to affect the other side, the first question should be: what exactly must I do to overcome the opponent? It may be impossible for me to change his perception of ends, but I can still constrain his freedom of action. This is a very important concept. To constrain another’s freedom of action, I need to calculate not only how I might

PRINCIPLES OF WAR

UNITED STATES	GREAT BRITAIN AUSTRALIA	SOVIET UNION "PRINCIPLES OF MILITARY ART"	FRANCE	PEOPLE'S REPUBLIC OF CHINA	ARGENTINA
OBJECTIVE	SELECTION & MAINTENANCE OF AIM			SELECTION & MAINTENANCE OF AIM	OBJECTIVE
OFFENSIVE	OFFENSIVE ACTION			OFFENSIVE ACTION	OFFENSIVE
MASS	CONCENTRATION OF FORCE	MASSING & CORRELATION OF FORCES	CONCENTRATION OF EFFORT	CONCENTRATION OF FORCE	CONCENTRATION OF FORCE
ECONOMY OF FORCE	ECONOMY OF FORCE	ECONOMY/SUFFICIENCY OF FORCE			ECONOMY OF FORCE
MANEUVER	FLEXIBILITY	INITIATIVE		INITIATIVE & FLEXIBILITY	MANEUVER
UNITY OF COMMAND	COOPERATION			COORDINATION	COOPERATION
SECURITY	SECURITY			SECURITY	SECURITY
SURPRISE	SURPRISE	SURPRISE	SURPRISE	SURPRISE	SURPRISE
SIMPLICITY					SIMPLICITY
TIMING & TEMPO		<u>MOBILITY & TEMPO</u> INTERWORKING & COORDINATION		MOBILITY	
	MAINTENANCE OF MORALE			MORALE	MORALE
			LIBERTY OF ACTION	FREEDOM OF ACTION	FREEDOM OF ACTION
LOGISTIC		PRESERVATION OF COMBAT EFFECTIVENESS			READINESS
COHESION					
		SIMULTANEOUS ATTACKS ON ALL LEVELS			
				POLITICAL MOBILIZATION	

Figure 2

reduce his physical capability (e.g., tanks, ships, etc.), I have to look at the world the way he looks at it. This is not the way we normally think; we maintain that when we are punishing our opponents, they cannot get the prize at the end of the game.

To ensure freedom of action it is essential to gain and retain *initiative* in operations. Initiative, a fundamental factor of maneuver, implies the power of compelling the opponent to conform to one's actions—to do what one wants, in spite of his ends.¹⁰

Now, freedom of action is directly affected by what Clausewitz has called the "frictions of war," since war is like movement in a resistant element. Friction is generated mainly by unanticipated factors, and distinguishes real war from war on paper. Friction causes effects that cannot always be accurately predicted, since its appearance is due basically to chance.¹¹ Some of the more common definable frictions of war are enemy actions (the most important friction), political conditioning, moral constraints, geographic and meteorological conditions, logistics (including a nation's economic status), training, and technology. Friction comprises all factors that intervene between the plan and its execution. Execution never totally reflects that which is planned. This is why such things as "moral constraints" may be included in the model; planned actions which may be morally repugnant to one party can impose operational limitations or constraints upon him (e.g., concerning civilian targets).

Friction felt by one side can positively reinforce another's freedom of action. In short, someone else's friction may be to my advantage. Though my plan may not be very brilliant, it may be better than his, given the circumstances. His frictions compensate for some of the weaknesses in my own plan, and vice versa. As an example, if one is tied by political considerations, one's freedom of action is limited. This can aid the opponent.

Each time one's freedom of action has been affected, a first feedback loop occurs, where it is necessary to review one's strategy and policy, and, if need be, make reassessments and adjustments.

Furthermore, the idea of maneuver takes us to the struggle or battle where the collision of forces and wills of both sides take place. Depending on the competitors' attitudes, offensive or defensive actions will occur and will be oriented according to what each contender considers to be the other's *center of gravity*. Clausewitz defines center of gravity in his seventh book as the place where mass is concentrated most densely, presenting the most lucrative target. We may expand this concept to include the respective sources of strength of both sides.

Finally, the struggle or battle generates results—which can be final if the ends are achieved, or partial if they merely cause friction. In the latter case, there is a second feedback loop that is closed where freedom of action is affected and

THE STRATEGIC KEYBOARD

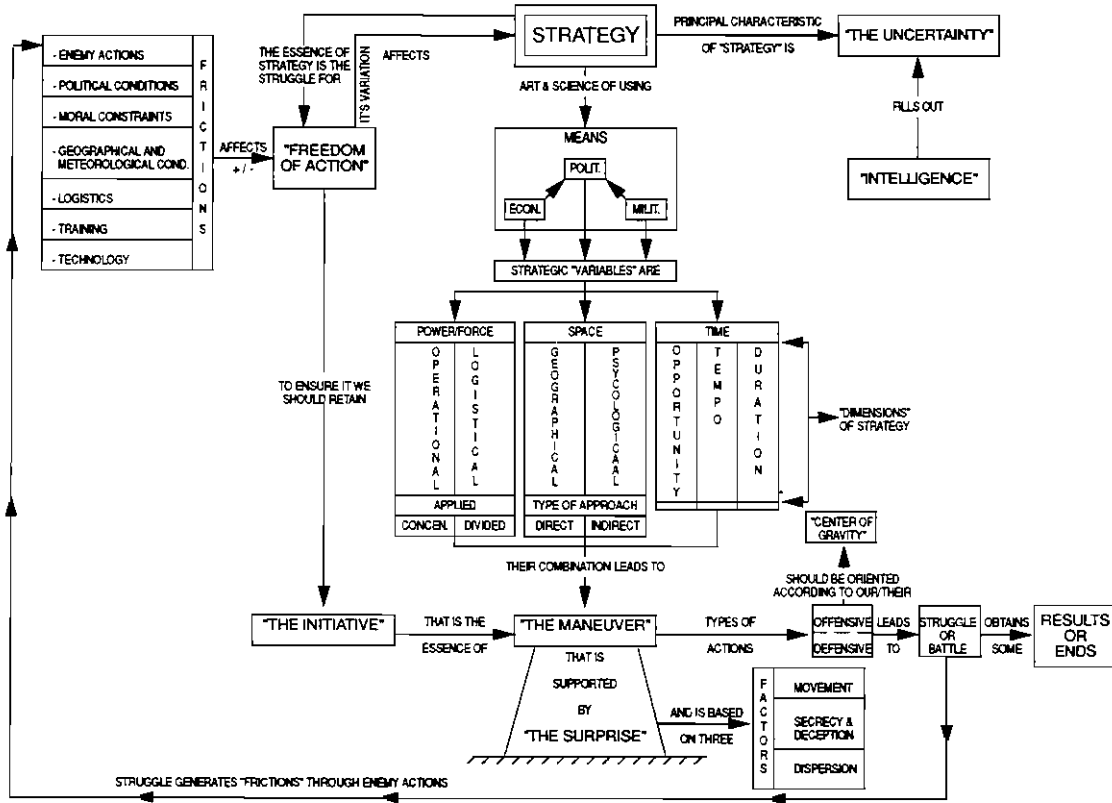


Figure 3

where, consequently, strategy should be adjusted; in that way the interaction is constantly maintained.¹²

Playing the Strategic Keyboard

To recapitulate, the Keyboard has in it all the potential strategic elements laid out in a flow chart (See Figure 3) and relates the principles of war in an integrated way. One may apply the Keyboard to any strategy—diplomatic, economic, or military—and to different levels of decision making, since at the highest levels objectives are more abstract and less defined than at lower echelons. A few examples suffice to demonstrate the range of the Strategic Keyboard.

Napoleon. The operational technique of the Napoleonic period emphasized mobility and was dependent on momentum, but it was nevertheless based upon logistics. Napoleon placed great emphasis on maneuver. He normally deployed in a direct approach, and looked to optimize opportunities created. He preferred to fight battles that were short in duration and high in tempo. His first mistake was to divide his forces in a three-front war: with an unconsolidated Spain at his back and England's navy operating freely in the Atlantic and Mediterranean, he opened a third front against Russia.

In the Russian campaign, at the operational level he failed to recognize his own center of gravity (his logistics) and that of Russia (its army), and created a formidable logistical problem by overextending his lines of communications. He also underestimated the weather and geographic conditions; these became insuperable frictions.

Russia, on the other hand, used the indirect approach of Sun Tzu and Liddell Hart. Russia relied on its vast expanse, resorted to a flexible defense, generally avoided decisive battles, and took great advantage of the geographical and psychological dimensions of space. Russian strategic plans rested more on logistical rather than operational considerations.

World War II. The United States solved its strategic problem here by principally applying force in the geographical dimension, fighting at high tempo to obtain rapid results; its strategy was based on force. There were few political constraints or frictions upon the scope and object of the war, since the total surrender of the Axis forces was the main goal, and logistical limitations were manageable because the whole nation was at war. From Operation Torch on, the strategic initiative was maintained in the Atlantic, Mediterranean, and Pacific theaters. Maneuver was based on offensive actions aimed at the respective Axis armies (the enemy's center of gravity) through indirect approaches using amphibious operations. This provided movement, and the necessary dispersion to enable strategic and tactical surprise.

VARIABLES	DIMENSIONS	DEPENDS ON
POWER OR FORCE	OPERATIONAL	ACTING OR
	LOGISTICAL	SUPPORTING ROLE.
SPACE	GEOGRAPHICAL	WHERE IT ACTS, (FIELD OR MIND)
	SOCIO-PSYCHOLOGICAL	
TIME	DURATION	HOW MUCH IT ACTS,
	OPPORTUNITY	WHEN AND
	TEMPO	WITH WHAT CADENCE.

Figure 4

Insurgency and Guerrilla War in the Twentieth Century. Understanding this type of conflict has always been difficult. Force has been applied in a socio-psychological dimension of “space,” using an indirect approach and divided into two time dimensions: fighting a protracted war, and searching for the best opportunities.

Guerrillas make extensive use of surprise, which, combined with high levels of movement, secrecy, deception, and dispersion of forces, is most effective. Guerrillas likewise exploit all frictions that affect the enemy’s freedom of action, choosing the best terrain for movement and cover, and taking advantage of the other side’s moral and political constraints while using terrorism as regular procedure. All principal revolutionaries (e.g., Mao, Giap, Che Guevara, et al.) agree that it makes no sense to fight a war of decisive battles. Instead, the entire population should be engaged in a protracted non-frontal war.

Cold War. General Beaufré defined in 1965 what he called the “logistical battle.” He maintained that during the postwar years a new form of strategy had been developing, a strategy in which the phrase “arm race” (used previously to define the buildup to armed conflict) was hardly more than a faint reflection of war.

He asserted that there were no set-piece battles in this strategy, and that each side’s goal was to outdo the other in the performance of equipment. The “tactics” were industrial, technical, and financial. Beaufré concluded that such

action was a form of indirect attrition, that one need not destroy the enemy's resources and equipment but just render them obsolete by forcing him to ever-increasing expenditure.¹³

With the collapse that began in 1989 of Soviet hegemony, one can clearly see what Beaufré had predicted. The United States and the Western alliance have won a protracted logistical struggle in a psychological dimension of space, where logistical and technological frictions have almost completely deprived the Soviet Union of its freedom of action.

Conclusions

It is said that military institutions are always training and preparing for the "last war," studying it to ascertain how the nation should fight the next one. One can find in history, however, many events which are similar but do not carry the same meaning. After the First World War, many Europeans prepared themselves for what they believed was going to be a war of trenches and fixed positions, but in the event they faced a conflict utterly different. The limited conflicts of the Cold War proved to be unlike the "lessons" of the Second World War. Historical analogies are not magic recipes, nor are the principles of war absolute truths; rather, they provide categories of thought and points of reflection which may be applied to different circumstances. Admiral Joseph Wylie wrote, "We cannot predict with certainty the pattern of the war for which we prepare ourselves. We cannot, with reasonable certainty forecast the time, the place, the scope, the intensity, the course, and the general tenor of war. I think no man ever has. A strategy for an entire war is not predictable."¹⁴ This stresses the fact that each conflict has its own dynamic and rules.

The crucial issue, however, remains the relationship between ends and means. The Strategic Keyboard provides a framework to examine the various combinations and sequences within this relationship. This tool is of little value, however, if we do not believe that war is an *art*. Because it is an art, its conduct depends on not only principles and experience but upon imagination and unforeseen events.

Notes

1. Douglas Kinnard, "The 'Strategy' of the War in South Vietnam," Essay, University of Vermont.
2. Frederico Frischknecht, *La Estrategia* (Buenos Aires: Escuela de Guerra Naval Argentina, 1988).
3. Webster's Third New International Dictionary, s.v. "rational," "rationality."
4. *The Joint Staff Officer's Guide* (Washington, D.C.: National Defense University, 1988).
5. Carl von Clausewitz, *On War* (Princeton, New Jersey: Princeton University Press, 1984).
6. Sun Tzu, *The Art of War*. (London: Oxford University Press, 1963.)
7. *Ibid.*
8. André Beaufré, *Introduction à la Stratégie*, 3d ed. (Paris: Librairie Armand Colin, 1982).
9. *Ibid.*
10. H.M. Johnstone, *The Foundation of Strategy* (London: George & Unwin, Ltd., 1914).

11. Clausewitz.
12. *Ibid.*
13. Beaufré.
14. Joseph C. Wylie, *Military Strategy: A General Theory of Power Control* (New Brunswick, N.J.: Rutgers University Press, 1967).

Ψ

But in hastening the surrender, in preventing a continuance of the war into 1919, military action ranks foremost. This conclusion does not imply that, at the moment of the Armistice, Germany's military power was broken or her armies decisively beaten, nor that the Armistice was a mistaken concession. Rather does the record of the last "hundred days," when sifted, confirm the immemorial lesson that the true aim in war is in the mind of the hostile rulers, not the bodies of their troops; that the balance between victory and defeat runs on mental impressions and only indirectly on physical blows.

B.H. Liddell Hart: *Strategy*
New York, Praeger, 1967, pp. 218-219

Beware intelligence estimates that the enemy has been prostrated. Severe blows make people concentrate and rally their strength with new determination. If they do not win the war, they may well take the peace.

Robin Higham
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