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**The Centre of Gravity and Its Application in
Limited Warfare**

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the degree of Master of Arts

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ABSTRACT

The concept of centre of gravity was first introduced by Clausewitz to military area in his masterpiece: *On War*. It has been widely used in recent years. However, the interpretations of the concept are seriously confused. Different people and different organisations define the term according to their own understanding. The problems caused by the confusion of the concept in wars and conflicts demonstrate the imperative to refine the concept.

In order to explore the possibility of providing a way out, the thesis follows the theme: theory – practice – theory. It tries to achieve four objectives: concluding the natural meaning of the concept of centre of gravity, finding out the current confusion of the concept, refining concept of centre of gravity, creating a strategy and operational centre of gravity analytical model with the Chaos and Complex Theory, and putting forward some suggestions about future application of the concept.

In Chapter One and Two, the thesis analysed Sun Zi, Clausewitz, Liddell Hart, Jomini, Mao Zedong, John Warden, the US Army, Navy, Air Force, Marine Corps, and Joint Chiefs of Staff's related ideas about the concept. It seems that all of them believe that centre of gravity is where one has to focus his effort, and attacking centre of gravity is the most effective and practical way to realise the objectives. Based on the common understanding, the thesis used Chaos and Complex theory to refine the concept to adapt it to non-linear war, to make it as an objective and effectiveness-oriented concept. A strategic and operational model were built in Chapter Two.

From Chapters Three to Six, the thesis applied the refined concept and new models to four wars under the circumstances of limited conventional warfare. Given the fact that the centre of gravity has different characters in different kinds of wars, this thesis selected two short wars (the Falklands War and 2003 Gulf War) and two stalemated conflicts (the Vietnam war, and Palestine and Israel conflict) to conduct case studies.

The four case of studies showed that the refined concept and new models were able to principally explain the successes or failures in the wars. The studies also provided some revelations for the thesis to discuss the application of the concept in future warfare. However,

the application of the concept is a kind of art, not science. Using it to analyse a historical war or operation is one thing, applying it to direct a war or operation is fundamentally different.

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ABBREVIATIONS

CAS	Complex Adaptive System
CC	critical capability
COG	center of gravity
CR	critical requirement
CV	critical vulnerability
DOP	Declaration of Principles between Palestine and Israel
EEC	European Economic Community
JCS	U.S. Joint Chiefs of Staff
NATO	North Atlantic Treaty Organisation
NLF	National Liberation Front of South Vietnam
PLO	Palestine Liberation Organisation
RAAF	Royal Australia Air Force
RUSI	Royal United Services Institute
UN	United Nations
US	United States of America
USAF	U.S. Air Force
USAWC	United States Army War College
USMC	U.S. Marine Corps
USN	U.S. Navy
WMD	weapons of mass destruction

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Introduction

The concept of centre of gravity was first introduced to military thought by Carl von Clausewitz. In his masterpiece, *On War*, he defined it as ‘the hub of all power and movement, on which everything depends. That is the point against which all energies should be directed.’¹ The importance of the concept in military planning and operation was stressed not only by Clausewitz, but also by his followers. Clausewitz saw the fundamental task in war as being able to ‘identify the enemy’s centre of gravity.’² The US Joint Pub 3-0 believes that ‘destruction or neutralization of enemy centres of gravity is the most direct path to victory,’ and the concept is a useful tool to analyse friendly and enemy sources of strength as well as weaknesses and vulnerabilities.³ The US Air Force advocates that striking directly at an adversary’s strategic or operational centre of gravity is a key theme of air and space power’s maneuver advantage.⁴

However, this important concept is full of confusion. Besides Clausewitz’s definition, the US Air Force defines centres of gravity as enemy’s major vulnerabilities. The US Army and the US Navy believe the centre of gravity is the source of power of an operational system. The American Joint Chiefs of Staff’s definition is a combination of the Services’ main ideas. In Joint Pub 3-0, centres of gravity are defined as ‘those characteristics, capabilities, or locations from which a military force derives its freedom of action, physical strength, or will to fight.’⁵ Given the US’s leading position in developing modern military theory, the confused understanding in the US military forces also has a strong influence on other countries’ understanding of the concept. In Australian and New Zealand Defence Force Command and Staff Colleges, the centre of gravity is commonly regarded as enemy’s force projection capability.⁶

¹ Clausewitz, Carl Von, *On War*, Michael Howard, Peter Paret (ed. & trans), Princeton: Princeton University, 1976, pp.595-596.

² Clausewitz, pp.617-619.

³ US Joint Chief of Staff, *Joint Pub 3-0: Doctrine for Joint Operations*, February 1995, III-20.

⁴ US Air Force, *Air Force Basic Doctrine*, September 1997, p. 17.

⁵ Ibid.

⁶ The conclusion came from the author of the thesis when studying in New Zealand Defence Force Command and Staff College.

The confusion of the concept is caused partly by the translation from German to English and partly by the different cultures and capabilities of different services. It is reasonable that different service should have a different kind of way to conduct operations. But the concept of the centre of gravity is an analytical tool for strategic or operational planning. If it is confused, it could seriously weaken the effects of joint operations. In Operation Desert Storm, this difference among the US services caused quarrels among senior US commanders about the allocation of combat resources. The Commander in Chief of the US Central Command, army General Schwarzkopf identified the Republican Guard as the centre of gravity of the campaign, while the Joint Air Force Component Commander, Lt. General Horner had a number of centres of gravity, with the Iraqi leadership as the most important one. The Republican Guard was just listed fifth in its centres of gravity category. During the operation, Schwarzkopf repeatedly suggested Horner to allocate more air sorties to attack the Republican Guards and ground troops.⁷ However, Horner largely ignored his suggestions. The attacks on the Republican Guards were never heavy or sustained enough to destroy them.⁸

Facing the confusion, some military specialists have begun to rethink Clausewitz's definition. For instance, Lieutenant Colonel J. Echevarria II, director of National Security Affairs in the Strategic Studies Institute at the US Army War College argued that Clausewitz's centre of gravity is not what we thought. It means a 'focal point', neither a strength nor a weakness. 'A centre of gravity exerts a certain centripetal force that tends to hold an entire system or structure together; thus a blow at the centre of gravity would throw an enemy off balance or even cause the entire system to collapse.'⁹ Colonel Richard Iron, Director-General of Development and Doctrine of British Army, pointed out that the current definitions have overlooked the relations between opponents.¹⁰ Unlike this kind of approach to reinterpret what Clausewitz had

⁷ Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf*, Boston: Little, Brown and Company, 1995, pp. 199-202.

⁸ John A. Warden III, 'Employing Air Power in the Twenty-first Century', in *The Future of Air Power in the Aftermath of the Operation Desert Storm*, Richard H. Shultz, Jr., Robert L. Pfaltzgraff, Jr.(ed.), Alabama: Air University Press, 1992, p. 75.

⁹ J. Echevarria II, 'Clausewitz's Centre of Gravity: It's not What We Thought', *Naval War College Review*, Winter 2003, p. 115.

¹⁰ Richard Iron, 'What Clausewitz (Really) Meant by 'Centre of Gravity'', *Defence Studies*, Autumn 2001, pp. 109-112.

meant in *On War*, this thesis tries to refine the concept according to the general meaning of the concept and the real need.

The refinement of the concept is based on the assumption that some important principles of war are the same all the time. 'Surprise', 'deception', 'concentration', 'quick action', 'taking initiative', and 'flexibility' etc., have been not only observed by ancient Roman armies, but also by modern American digital forces. Time and cultural differences cannot deprive the universality of the principles. This is why Sun Zi's *The Art of War*, written more than two thousand years ago is still the masterpiece in the modern era. The new strategy or tactic is just the combination of these principles with real situation. For example, the 'concentration' in network-centric warfare means to concentrate fire from widely dispersed troops in the theatre, while in Clausewitz's time, it means putting troops together in a designated area.

Given the importance of the centre of gravity in war, therefore, it could be considered that the idea of attacking the centre of gravity exists on the battlefield throughout history. Not only Clausewitz had it, some other military strategists had it as well. The centre of gravity is only a name to express a certain idea, by which Clausewitz might try to make easier to understand and use the principle. In fact, Clausewitz has taken a number of such metaphors as 'friction', 'fog', 'culmination', and 'mass' etc., from the other areas to express military ideas. Although, the current definitions are diversified, they still have some common points. So, it is possible to find out the general meaning of the centre of gravity from the ideas of some strategists and military organisations.

War is non-linear in nature, but the original centre of gravity concept is a linear one. Although Clausewitz had some non-linear ideas about the centre of gravity concept, neither was it clearly expressed in the definition, nor did his followers regard it. Because of the interdependence and interactions between various components in a non-linear war system, it is very difficult for a commander to use the current definitions to identify which component is the centre of gravity. Therefore, it is useful to combine the general meaning of the centre of gravity concept with the non-linear theory when refining the concept. For this purpose, two non-linear theories, the Chaos and Complex theories will be selected to analyse the shortcomings of current definitions, and to find out what needs to be improved in the refined concept.

The refined definition will be an effectiveness and objective-oriented concept. It stresses the importance of concentrating effects of one's effort, the close relationship between the centre of gravity and the objective, and the interactions between the components. Based on the refined concept, the thesis will set up strategic and operational centre of gravity models respectively.

In order to check the validity of the refined concept, the thesis will consider some case studies with the concept. Although, 'the idea of centre of gravity can apply to all levels and kinds of conflict, and can accommodate a wide range of 'targets'',¹¹ this thesis will only apply the concept to limited warfare. As George F. Kennan pointed out, 'People have been accustomed to saying that the day of limited war is over. I would submit that the truth is exactly the opposite: that the day of total wars has passed, and that from now on limited military operations are the only ones that could conceivably serve any coherent purpose.'¹²

Considering the characteristics of the centre of gravity varies in different kinds of warfare, the thesis will select four limited wars after World War II. Two of them are short wars, and the other two are protracted conflicts. In the cases of the Vietnam War, the Palestinian and Israel conflict, and the 2003 Gulf War, the thesis will analyse the strategic centres of gravity of the warring sides. In the case of the Falklands War, it will highlight the analysis of operational centres of gravity of Argentina and Britain.

These case studies not only serve the purpose of refining the concept and models, but also improve the understanding of the application of the concept. In the last chapter, the thesis will turn to discuss four questions about its future application. They are: how to identify the centre of gravity, how to attack the centre of gravity, how to deal with the change of the centre of gravity, and whether a terrorist organisation has a centre of gravity.

¹¹ Colin S. Gray, *Modern Strategy*, New York: Oxford University Press, 1999, p. 96.

¹² Trumbull Higgins, *Korea and the Fall of Macarthur: A Precise in Limited War*, New York: Oxford University Press, 1960, p. 154.

Generally speaking, the thesis follows the theme: theory – practice – theory. It tries to achieve four objectives: concluding the natural meaning of the concept of the centre of gravity, finding out the current confusion of the concept, refining the concept of the centre of gravity and creating a strategy and operational centre of gravity analytical model with the Chaos and Complex Theory. It will also put forward some suggestions about the future application of the concept.

It has to be pointed out that identifying and defending friendly centre of gravity is as important as identifying and attacking enemy's centre of gravity. However, this thesis will primarily focus on how to identify and attack enemy's centre of gravity.

Chapter One: Centre of Gravity Definitions/Ideas Analysis

The concept of the centre of gravity originated from the work of Sir Issac Newton and became the cornerstone of modern physics. After Carl von Clausewitz introduced the idea to military sphere, the concept was widely used by various military strategists and organisations. However, it also becomes the one of the most confused concepts in terms of applications. Different strategists and organisations try to define the concept according to their own understanding and their own needs. The definitions of the concept as the 'Sources of Power', 'Weakness or Vulnerability', and 'focal point' are so apart that people may wonder how they can be related to the same concept. These differences seriously compromise the imperative of concept in a joint warfare, contributing to the endless quarrels between various organisations about the identification of enemy's centre of gravity in a war. The purpose of this chapter is to find out the general meaning of the centre of gravity. In doing so, the thesis will discuss the ideas of Clausewitz, Sun Zi, Liddell Hart, Jomini, Mao Zedong, John Warden, the US Air Force, US Army, US Navy, US Marine Corps, US Joint Chiefs of Staff; and the Australian Air Force.

In the middle of the 17th century, Sir Issac Newton made a well-known discovery: the Universal Law of Gravity, from the revelation of falling apples. The attracting force existing between any two particles of matter is called gravitation. A centre of gravity represents the point where the forces of gravity converge within an object.¹³ However, the centre of gravity does not mean an object really has a point like that. It is just a mathematical approximation for scientific research. This centre of gravity represents the spot at which the object's weight is balanced in all directions. Striking at, or otherwise upsetting the centre of gravity, can cause the object to lose its balance, or equilibrium.

The centre of gravity of an object can have various positions. The centre of gravity of a uniform stick is at its middle; the centre of gravity of a sphere of uniform density coincides with the centre of the sphere. Interestingly, the centres of gravity of some

¹³ Geoff Jones and Mary Jones, and Phillip Marchington, *Cambridge Coordinated Science: Physics*, Cambridge: Cambridge University Press, 1993, pp. 52-55.

objects may not necessarily be on the objects themselves. For example, the centre of gravity of a ring or hollow cylinder is located in the enclosed space.¹⁴ It is relatively easier to find the centre of gravity of solid object with uniform density and good shape, such as a ruler, a box, or a table, rather than non-solid air or water.

In military arena, the concept of the centre of gravity was first adopted by Carl von Clausewitz in his masterpiece, *On War*. Apart from this concept, Clausewitz also borrowed some other concepts from physics, such as 'friction' and 'machine', to explain the nature of war. Clausewitz believed that the centre of gravity is 'the hub of all power and movement, on which everything depends. That is the point against which all energies should be directed.'¹⁵ He saw the fundamental task in war as being able to 'identify the enemy's centres of gravity.'¹⁶ In a campaign, the centre of gravity is always as enemy's main troops, while at a strategic level, it may be the capital or leadership. The basic contents of Clausewitz's centre of gravity concept include the following points:¹⁷

The centre of gravity is the source of all other power, and is also the focal point of the war, on which one has to keep his main energy. Clausewitz advocated, 'the battle must always be considered as the true centre of gravity of the war,'¹⁸ and 'the major battle is therefore to be regarded as concentrated war, as the centre of gravity of the entire conflict.'¹⁹

The centre of gravity is the result of the interactions between the two sides of the war. Clausewitz said: 'What the theorist has to say here is this: one must keep the dominant characteristic of both belligerents in mind. Out of these characteristics a certain centre of gravity develops...' which may imply that centre of gravity is changeable during a war or a campaign as the characteristics of the two sides change.

14 Columbia Encyclopedia, 'Centre of mass', <http://www.bartleby.com/65/ce/centrema.html>, (18 April 2003).

15 Carl von Clausewitz, *On War*, Michael Howard, Peter Paret (ed.& trans), Princeton, NJ: Princeton University Press, 1967, pp.595-596.

16 Clausewitz, pp.617-619.

17 The viewpoints can be found in *On War*, pp.617-19, 595-96, 484-87.

¹⁸ Clausewitz, p.248.

¹⁹ Clausewitz, p.258.

The objective of attacking the enemy's centre of gravity is to disrupt the enemy's balance, achieving a quick and decisive victory. The outcome of a major battle has a greater psychological effect on the loser than on the winner. This, in turn, gives rise to an additional loss of material strength, which is echoed in loss of morale; the two become mutually interactive as each enhances and intensifies the other.²⁰

The number of enemy centres of gravity depends 'first, upon the [enemy's] political connectivity or unity itself' and 'second, upon the situation in the theatre of war itself, and which of the various enemy armies appear there.'²¹ But, 'if possible trace them back to a single [centre of gravity].' Considering what Clausewitz has borrowed from physics, it seems that he believed that the better an enemy is organized and commanded, and the closer they are connected, the easier is it to find a centre of gravity.

The only way to attack the enemy centre of gravity is battle. He stated 'fighting is the only principle in the manifold activities generally designated as war.'²² And 'battle is the one and only means that warfare can employ'²³

As *On War* was written in German, it is natural to find differences among the different translations. Michael Howard and Peter Paret's definition in 1976 is believed to be the best available and most commonly referred to.²⁴ However, a few military experts disagree with this commonality. Lieutenant Colonel Echevarria, Director of National Security Affairs in the Strategic Studies Institute at the U.S. Army War College, argued that 'the translation strips away the physics metaphors that Clausewitz used to describe his military concept, metaphors essential to understanding his basic idea...' and Clausewitz never 'equated the centre of gravity to a strength or source of strength'.²⁵ Clausewitz's centres of gravity are focal points that serve to hold a combatant's entire system or structure together.²⁶ Colonel Richard Iron

²⁰ Clausewitz, p.253.

²¹ Clausewitz, p.617.

²² Clausewitz, p.127.

²³ Clausewitz, p.577.

²⁴ Antulio J. Echevarria II, 'Clausewitz's Centre of Gravity: It's Not What we Thought', *Naval War College Review*, Winter 2003, Vol.LVI, No.1, p.110.

²⁵ Echevarria II, p.110.

²⁶ Antulio J. Echevarria II, *Clausewitz's Centre of Gravity: Changing Our Warfighting Doctrine – Again!*, Carlisle Barracks, PA: USAWC Strategic Studies Institute, 2002, pp. 16-19.

of the British Army also pointed out that Clausewitz's idea was to stress that the 'strike on centre of gravity is the most effective – not necessarily the heaviest.'²⁷ Christopher Bassford reiterated in the courses for the U.S. Army War College in 1996, 1998, 2000, and 2002 that Clausewitz often used it as a very general term to mean something like 'the main thing' or 'the key point at issue.' However, 'his statement that centre of gravity is always found where the mass is concentrated most densely is scientifically wrong. To seek for an all-purpose strategic prescription in Clausewitz's discussion of the centre of gravity will therefore lead to the usual frustration.'²⁸

It can be argued that no matter what Clausewitz meant or defined in relation to the centre of gravity, two things are clear. One is that the centre of gravity is the place where one has to focus the effects and the other is that attacking the centre of gravity is the most effective way of achieving one's objective. Since the centre of gravity was a concept Clausewitz used as a basic principle of war, it could be deduced that some other military strategists had a similar idea about how to attack the enemy, considering that the basic principles of war are universal.

Sun Zi, a 500 B.C. Chinese, was believed to be one of the most influential military strategists in human history. In his work, *The Art of War*, Sun Zi did not give people an explicit exposition on the centre of gravity, but he implied something about centre of gravity. At the strategic level, he implied that the king was the centre of gravity of a state. In the Chapter, on Strategic Assessments, he argued that there are five factors deciding the outcome of a war. They include the moral influence of the king, weather, terrain, commander and doctrine. The most important factor is the king, who must have a moral influence that could make people follow him regardless of the danger to their lives.²⁹ At the operational level, Sun Zi defined the general of the king as the centre of gravity, believing that 'the ruin of the army and the death of the general are

²⁷ Richard Iron, 'What Clausewitz (Really) meant by 'Centre of Gravity'', *Defence Studies*, Vol.1, No.3 (Autumn 2001), p 110.

²⁸ Christopher Bassford, 'Clausewitz and His Works', Carlisle Barracks, PA: Army War College Courseware, 1996.

²⁹ Sun Zi, *The Art of War*, Pan Jiafen, Liu Ruixiang (trans), Beijing: Military Science Press, 1993, p. 1-2.

the inevitable results of these five dangerous faults [of the general].³⁰ 'There are six situations that cause an army to fail. They are: flight, insubordination, fall, collapse, disorganization and rout. None of these disasters can be attributed to natural and geographical causes, but to the fault of the general.'³¹

Sun Zi's approach to the centre of gravity was characterized as indirect. Because of this belief that the king and general are the centres of gravity, Sun Zi advocated, 'the best policy in war is to attack an enemy's strategy. The second best way is to disrupt his alliances through diplomatic means. The next best method is to attack his army in the field.'³² In implementing these strategies, Sun Zi stressed such principles as deception, surprise,³³ avoiding the strong and beating the weak,³⁴ orthodox and unorthodox,³⁵ and indirect approach.³⁶

Captain Sir Basil Liddell Hart, British military historian and strategic theorist, was 'in general an unsympathetic reader of Clausewitz, often obtusely unsympathetic.'³⁷ Compared with Clausewitz, Liddell Hart was more of a psychologist. Not only did he think that war was caused by 'a psychological source – springing from the animal in man,'³⁸ but also that the best way to win a war was through psychological attack.

Liddell Hart was strongly against Clausewitz's idea of considering the enemy's main force as a centre of gravity. He condemned decisive battles involving masses of troops. He frequently questioned 'of what is decisive victory in battle if we bleed to death as a result of it?... A secure peace is better than a pyramid of skulls.'³⁹ He argued that the enemy's main force was only the shield, which defended the enemy's capital or government. It was a delusion that the armed forces themselves were the real objective.⁴⁰

³⁰ Sun Zi, pp.54-55. The five faults are reckless, cowardly, quick-tempered, too much honour, and too strong compassionate.

³¹ Sun Zi, pp.70-71.

³² Sun Zi, p.15.

³³ Sun Zi, p.5.

³⁴ Sun Zi, p.28.

³⁵ Sun Zi, p.28-29.

³⁶ Sun Zi, p.43-44.

³⁷ Alex Danchev, 'Liddell Hart's Big Idea', *Review of International Studies*, Vol.25, Jan 1999, p.34.

³⁸ Liddell Hart, *Thoughts on War*, London: Faber and Faber Ltd, 1943, p. 16.

³⁹ Alex Danchev, 'Liddell Hart and Manoeuvre', *RUSI Journal*, Dec 1998, pp. 33-35.

⁴⁰ Hart, *Thoughts on War*, p.50.

At the strategic level, Liddell Hart defined that the public support and national will to fight were the most important thing, because ‘history attests that loss of hope, not loss of lives, is what decides the issue of war.’⁴¹ At the operational level, he advocated that ‘The true military objective is a mental rather than a physical objective – the paralysis of the opposing command, not the bodies of the actual soldiers. For an army without orders, without co-ordination, without supplies, easily becomes a panic-stricken and famine-stricken mob, incapable of effective action.’⁴² The armed forces are only an obstacle to be overcome if it cannot be evaded on the way to the economic goal.⁴³ Therefore, ‘If we operate against his troops it is fundamentally for the effect that action will produce on the mind and will of the commander; indeed, the trend of warfare and the development of new weapons – aircraft and tanks – promise to give us increased and more direct opportunities of striking at this psychological target.’⁴⁴

Liddell Hart’s general strategic approach to enemy’s mind and will is indirect. Like Sun Zi, he stressed the principle of striking the weak and avoiding the strong. ‘It is the function of grand strategy to discover and exploit the achilles’ heel of the enemy nation; to strike not against its strongest bulwark but against its most vulnerable spot.’⁴⁵ Liddell Hart had two favourite dictums, which best expressed his idea about the Indirect Approach. One is to ‘choose the line (or course) of least expectation, exploit the line of least resistance.’ Another is to ‘put your enemy on the horns of dilemma, ensure that both plan and dispositions are flexible – adaptable to circumstances.’⁴⁶

Liddell Hart identified two kinds of targets of high value. One is enemy’s national economy. Because ‘the resisting power of a modern nation depends more on the strength of the popular will than on the strength of its armies, and this will in turn depend largely upon economic and social security.’⁴⁷ He reiterated in his masterpiece, *Strategy: The Indirect Approach*, that the final victory of the Allied Force over

⁴¹ Hart, *Thoughts on War*, p.202.

⁴² Hart, *Thoughts on War*, pp.52-53.

⁴³ Hart, *Thoughts on War*, p.56.

⁴⁴ Hart, *Thoughts on War*, p. 48.

⁴⁵ Hart, *Thoughts on War*, p.152.

⁴⁶ Hart, *Strategy: The Indirect Approach*, London: Faber and Faber Ltd, 1967, p.349.

⁴⁷ Hart, *Thoughts on War*, p.21.

Germany was not the defeat of the German Army, but the German Economy.⁴⁸ ‘No historian would underrate the direct effect of the semi-starvation of the German people in causing the final collapse of the ‘home-front’.’⁴⁹

The second is the line of communication. This usually aims to impose a direct influence on enemy force. On the one hand, Liddell Hart believed that ‘a good way to attack the enemy’s mind and will is through their stomachs.’⁵⁰ He argued that Sherman’s march, in the American Civil War, through Georgia – the ‘granary of the South’ – and then the Carolinas – the heart of the South, and the stoppage of supplies going north to Richmond and Lee’s army, caused the final collapse of the Confederates’ resistance.⁵¹ On the other hand, cutting off enemy’s communication line could produce a psychological impact on enemy’s commanders and troops, because this probably means they have lost their retreat route.

Another distinguishing aspect between Clausewitz and Liddell Hart is that Clausewitz stressed on the concentration of forces, while Liddell Hart stressed more on the concentration of effects. Liddell Hart argued that ‘the old concentration of force is likely to be replaced by an intangibly ubiquitous distribution of force – pressing everywhere yet assailable nowhere. The guerrilla trend of civilized warfare arises from the growing dependence of nations on industrial resources.’⁵² Therefore, all the effects of the separate attack are focused on the destruction of enemy’s economy and national will to fight.

Jomini is considered as one of the three most prominent modern military thinkers, though he is only familiar to military specialists.⁵³ Like Liddell Hart and Sun Zi, Jomini did not mention the concept of the centre of gravity directly in his works. However, Echevarria II argued that Clausewitz’s idea evolved from Jomini’s concept of decisive points.⁵⁴ In his work, *the Art of War*, Jomini put forward four types of

⁴⁸ Hart, *Thoughts on War*, p.51.

⁴⁹ Hart, *Strategy: The Indirect Approach*, p.202.

⁵⁰ Hart, *Thoughts on War*, p.129.

⁵¹ Hart, *Thoughts on War*, p.145.

⁵² Hart, *Thoughts on War*, p. 31.

⁵³ John Shy, ‘Jomini’, in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, Peter Paret (ed.), Princeton: Princeton University Press, 1986, p.143

⁵⁴ Antulio J. Echevarria II, *Clausewitz’s Centre of Gravity: Changing Our Warfighting Doctrine – Again!*, ISBN 1-58487-099-0, Carlisle Barracks, PA: Strategic Study Institute, 2002, p. 2.

targets of potential strategic importance in a war, naming ‘Strategic Points’, ‘Decisive Points’, ‘Decisive Strategic Points’, and ‘Objective Points’. All four types can be further divided into two classes belonging to geography or manoeuvre. The definition of these eight types of targets is shown in Table 1.1.⁵⁵

Table 1.1: Jomini’s theory about important points in war.

	Type	Definition	Characters
Decisive points	Geography	The possession of which would give the control of the junction of several valleys and of the centre of the chief lines of communication.	Natural, fixed
	Manoeuvre	Generally the enemy’s flank	Fluid, relative.
Strategic points	Geography	Points of the theatre of war which are of military importance, whether from their positions or from the presence of military establishment.	Stressing importance
	Manoeuvre	Having a value from the relations they bear to the positions of the masses of the hostile troops and to the enterprise likely to be directed against them.	Fluid, relative.
Decisive strategic points	Geography	Those are capable of exercising a marked influence either upon the result of the campaign or upon a single enterprise.	Constant, immense.
	Manoeuvre		
Objective points	Geography	Those afford good lines of defence or good points of support for ulterior	Objective oriented, decisive.
	Manoeuvre	Those relate particularly to the destruction or decomposition of the hostile forces, and decided by the objective of the campaign.	Objective oriented, army.

Although Jomini divided the targets into eight categories, it does not mean they are exclusive. A decisive point of geography could be a decisive strategic point, or

⁵⁵ ‘Jomini and His Summary of the Art of War’, J. D. Hittle (ed.) in *Roots of Strategy: Book 2*, Harrisburg, PA: Stackpole Books, 1989, pp. 460-469. The characters are defined by the thesis.

objective point of geography, such as a capital. However, a geographical target cannot be defined as a manoeuvrable target.

Among all the definitions given by Jomini about important points, arguably, the concept of the objective points of manoeuvre is closer to what Clausewitz defined as the centre of gravity. According to Michael I. Handel, 'the identification of the enemy's army as the single most important centre of gravity is even more heavily emphasized by Jomini [than Clausewitz].'⁵⁶ Using Napoleon as a proof, Jomini argued 'the best means of accomplishing great results was to dislodge and destroy the hostile army, since states and provinces fall of themselves when there is no organized force to protect them.'⁵⁷

Compared to other strategists, Jomini's centre of gravity is mainly a physical one. His approach to the enemy's centre of gravity is to hurl all available forces against a fraction of the enemy force, which gives the best promise of success.⁵⁸ The operation should 'fall like lightning upon his centre if his front was too much extended or upon that flank by which he could more readily seize his communications...'⁵⁹

Mao Zedong (Mao), the 20th century Chinese leader and strategist, shared some common points, such as the non-linear and unpredictable nature of war with Clausewitz.⁶⁰ As a leader leading the revolutionary war against the Guomindang⁶¹ and Japanese invaders, Mao always tended to analyse and solve problems from the whole situation. Mao considered the centre of gravity of the Chinese revolution was to annihilate the enemy's armed forces, which was the foundation of Jiang Kaishi⁶² regime.⁶³ He did not consider the capital as a centre of gravity, especially when defending it would result in unnecessary loss of troops. Long before the Guomindang troops attacked Yenan, the Capital of the Red Army in March of 1947,

⁵⁶ Michael I. Handel, *Masters of War: Classical Strategic Thought*, London: Frank Cass, 2001, p. 56.

⁵⁷ 'Jomini and His Summary of the Art of War', p.468.

⁵⁸ Shy, 'Jomini', in Peter Paret, 1986, p.154.

⁵⁹ 'Jomini and His Summary of the Art of War', 469.

⁶⁰ Handel, p.43.

⁶¹ Ruling party of Republic of China from early 1920s to 2000.

⁶² Head of the Republic of China and long time rival of Mao from 1927 to 1949.

⁶³ Mao Zedong, *Selected Military Writing of Mao Zedong*, Beijing: Military Science Academy Press, 1981, p.4. (Chinese Version)

Mao already had decided to temporarily abandon Yen-an in November 1946.⁶⁴ At the operational level, Mao also considered only one centre of gravity at a certain time. He strongly advocated concentrating the necessary forces against one target, as opposed to 'striking with two 'fists' in two directions at the same time'.⁶⁵

In his essay, 'On Contradiction', Mao adopted a philosophical viewpoint to discuss problem solving. He said that 'there are many contradictions in the process of development of a complex thing, and one of them is necessarily the principal contradiction whose existence and development determine or influence the existence and development of the other contradictions.' So that everyone has to focus his or her energy on the principle contradiction. 'Once this principal contradiction is grasped, all problems can be readily solved.'⁶⁶

John A. Warden III, a retired USAF Colonel, is arguably the most popular modern strategist in terms of using and developing the concept of the centre of gravity. In his 1988 book, *The Air Campaign: Planning for Combat*, Warden defined a centre of gravity as 'the point where the enemy is most vulnerable and the point where an attack will have the best chance of being decisive.'⁶⁷ Because of the aim of this book, he considered the enemy's centres of gravity in an air campaign lying in equipment, logistics, geography, personnel, or command and control.⁶⁸

His theoretical development of the centre of gravity application might reach the top in 1995, when he published the article, 'The Enemy as a System' in *Airpower Journal*.⁶⁹ In this essay, Warden put forward his well-known Five-Rings Theory, which defined every entity as being composed of five rings of subsystems: the brain or leadership, organic essentials, infrastructure, population, and fighting mechanism. On the rings, there are centres of gravity that are vulnerable and critical to the whole system. He argued that the most critical ring of centre of gravity is leadership because it is the

⁶⁴ Mao Tse-tung, *Selected Military Writing of Mao Tse-tung*, Beijing: Foreign Language Press, 1969, Vol. IV, p. 129-132.

⁶⁵ Mao Tse-tung, *Selected Military Writing of Mao Tse-tung*, Beijing: Foreign Language Press, 1969, p.95.

⁶⁶ Mao Tse-tung, *Mao Ze Dong Selected works*, Beijing: Foreign Language Press, 1967, pp.311-346.

⁶⁷ John A. Warden III, *The Air Campaign: Planning for Combat*, Washington: NDU Press, 1988, p.7.

⁶⁸ Warden III, p.35.

⁶⁹ John A. Warden III, 'The Enemy as a System',

<http://www.airpower.maxwell.af.mil/airchronicles/apj/warden.html>, (22 April 2003).

only element of the enemy that can direct a war and make concessions. The attack on the other outer rings is an indirect approach to leadership. For example, if a state's organic essentials are destroyed, life itself becomes difficult and the state becomes incapable of employing modern weapons and must make major concession. As for the last ring, the fielded military forces, Warden believes they are just a means to an end. Their only function is to protect their own inner rings or to threaten those of an enemy. So, 'it would be pointless to deal with enemy military forces if they can be bypassed by strategy or technology.'⁷⁰ The importance of the rings gradually descends from the leadership to field forces.

Warden's approach to centres of gravity is a parallel and paralysing attack. His assumption is that at the strategic level, states only have a small number of vital targets (centres of gravity), which are usually small, very expensive, and hard to repair, but have few backups. If they are struck in parallel, the damage will be beyond what the enemy can stand. 'The greater the percentage of targets hit in a single blow, the more nearly impossible enemy response.'⁷¹ In the 1991 Gulf War and Kosovo War, this approach was adopted by the Allied and NATO air power in striking Iraqi and Yugoslavia strategic targets.

Therefore, Warden's main arguments about the centre of gravity are: centre of gravity is vulnerable; a state has a number of centres of gravity belonging to five rings; and the attacks on certain centres of gravity aim to reduce the effectiveness of the overall system. It seems that Warden's concept of rings of centre of gravity is based on the following judgements. First, the development of armed forces, especially air force has allowed people to bypass the outer rings of centre of gravity, especially the last ring to reach the inner ones. Second, the essence of the war is not fighting, but to make the enemy accept what you want. The last is that the enemy will capitulate if he suffers great losses, especially in his second and third rings, before his troops are defeated. Although recent wars have given some support to the Warden's arguments, they also demonstrate its limitations as well. Arguably, Warden's approach is very air-force-oriented and American-oriented one, which has a great influence on the U.S. Air Force Doctrines.

⁷⁰ Warden, 'The Enemy as a System', (22 April 2003).

⁷¹ Warden, 'The Enemy as a System', (22 April 2003).

As the most powerful air force in the world, the U.S. Air Force advocates strategic attack as its most distinctive mission, which was what Giulio Douhet strongly believed.⁷² Unlike Army, who tends to occupy certain places or to annihilate a certain unit, Air Force likes to select certain important points or ‘targets’ in a theatre or country to attack. This kind of practice arguably has some influence on the Air Force’s centre of gravity concept, which stresses centres of gravity as vulnerable targets. In the Air Force 1992 Manual 1-1, it says:

In large measure, successful strategic attack operations depend on proper identification of the enemy’s major vulnerabilities – centres of gravity. Against a modern industrialized opponent in a conventional or nuclear war, a centre of gravity may be discerned by a careful analysis of the enemy’s industrial infrastructure, logistics system, population centres, and command and control apparatus. Against a less industrialized opponent, a centre of gravity may be subtle – it could, for example, be the political or materiel support the enemy obtains from non-combatant allies.⁷³

In contrast, the U.S. Army is heavily influenced by Clausewitz. In *FM 100-5*, the centre of gravity is ‘the hub of all power and movement upon which everything depends. It is that characteristic, capability, or location from which enemy and friendly forces derive their freedom of action, physical strength, or will to fight. Several traditional examples of a potential centre of gravity include the mass of the enemy army, the enemy’s battle command structure, public opinion, national will, and an alliance or coalition structure.’⁷⁴ This definition is ‘greatly colored by the physical analogies of mass and the hub of power, leading to a strong insistence that there should only be one centre of gravity.’⁷⁵ An enemy’s centre of gravity is the element that prevents the accomplishment of one’s own mission, while a friendly centre of gravity is the element that enables one to reach his own objective.⁷⁶

The US Navy has a concept similar to the US Army. It defines the centre of gravity as ‘something the enemy must have to continue military operation – a source of his

⁷² Giulio Douhet, ‘The Command of the Air’, in *Roots of Strategy: Book 4*, David Jablonsky (ed.), Mechanicsburg, PA: Stackpole Books, 1999, p. 267-274.

⁷³ USAF, *Basic Aerospace Doctrine of the United States Air Force: Air Force Manual 1-1 Volume II*, Washington, DC: USAF, 1992, p. 151.

⁷⁴ USA, *FM 100-5, Operation*, Washington, DC: Department of the Army, 1993, p. 6-7.

⁷⁵ Seow Hiang Lee, *Centre of Gravity or Centre of Confusion: Understanding the Mystique*, Maxwell Air Force Base: Air Command and Staff College, 1999, p. 14.

⁷⁶ Echevarria II, in *Naval War College Review*, Winter 2003, p.109.

strength, but not necessarily strong or a strength in itself.⁷⁷ Although the Navy thinks that it must strike at those objectives that are both critical to the enemy's ability to fight and vulnerable to our offensive actions, it more prefers to focus all the resources and energy on the critical vulnerabilities first to expose enemy's centre of gravity.⁷⁸

As a much smaller service, the US Marine Corps (USMC) agrees with the US Navy's approach to the centre of gravity, which is through enemy critical vulnerabilities. The USMC preferred for a time to think of the centre of gravity as a key weakness, or critical vulnerability.⁷⁹ However, in its 1997 doctrine *Warfighting*, the centre of gravity and critical vulnerabilities were treated as two complementary concepts, 'the former from the perspective of seeking a source of strength, while the latter from the perspective of seeking weakness.'⁸⁰ However, it believes that most enemy systems will not have a single centre of gravity on which everything else depends.⁸¹ In fact, the USMC has not made a clear line between the concept of centre of gravity and critical vulnerability.

Dr. Joe Strange from the USMC has tried to bridge the gap between centres of gravity and Critical Vulnerabilities. He built a centre of gravity analytic model, which is widely used in operational planning by the armed forces of various countries. He had four related concepts for the model: centres of gravity, critical capabilities, critical requirements, and critical vulnerabilities. In his theory, centres of gravity (CG) are primary sources of moral or physical entities that are the primary components of physical or moral strength, power and resistance. Critical capabilities (CC) are primary abilities that merit a centre of gravity to be identified as such in the context of a given scenario, situation or mission – including phases within campaigns or operations. Critical requirements (CR) are essential conditions, resources and means for a critical capability to be fully operative. Critical Vulnerabilities (CV) are those critical requirements, or components thereof, that are deficient, or vulnerable to

⁷⁷ USN, *Naval Warfare: Naval Doctrine Publication 1 (NDP1)*, Washington, DC: Department of the Navy, 1994, p.35.

⁷⁸ USN, *NDP1*, p.37.

⁷⁹ Antulio J. Echevarria II, *Clausewitz's Centre of Gravity: Changing Our Warfighting Doctrine – Again!*, Carlisle Barracks, PA: USAWC Strategic Studies Institute, 2002, p. 2.

⁸⁰ USMC, *MCDP1*, p.47.

⁸¹ USMC, *Warfighting: Marine Corps Doctrine Publication 1 (MCDP1)*, Washington, DC: USMC, 1997, p.47.

neutralization or defeat in a way that will contribute to a centre of gravity failing to achieve its critical capability.⁸² The analytical approach is from CG to CC to CR to CV. Vice versa, the attacks on centres of gravity follow the road of CV to CR to CC to CG.

Unlike each service adopting a service-oriented centre of gravity definition, the US Joint Chiefs of Staff tries to combine the Services' main ideas. In Joint Pub 3-0, centres of gravity is defined as 'those characteristics, capabilities, or locations from which a military force derives its freedom of action, physical strength, or will to fight.'⁸³ At the strategic level, centres of gravity might include a military force, an alliance, national will to fight or public support, a set of critical capabilities or functions, or national strategy itself. The most distinctive difference between this concept and the Services is that it does not mention the centres of gravity as critical vulnerabilities. In Joint Pub5-00.1, published in 2002, centre of gravity is defined as 'those aspects of the adversary's overall capability that, theoretically, if attacked and neutralized or destroyed will lead either to the adversary's inevitable defeat or force opponents to abandon aims or change behavior.'⁸⁴ An obvious difference between the two is that Joint Pub5-00.1 links the concept with objectives.

Some other countries' military forces have also put the centre of gravity concept into their doctrines. NATO's definition is nearly the same as the one in the U.S. Joint Pub 3-0.⁸⁵ The Australian Air Force (RAAF) differs slightly from the American ones, by focusing on effectiveness. It terms the centres of gravity as the elements, 'which provide strength and balance to a nation and its armed forces, in comparison with others, are more important to effective operations and which, if destroyed, damaged or lost will wreck havoc of a disproportionate effect.'⁸⁶ The definitions or ideas about centre of gravity by different strategists and organisations are showed in Table 1.2.

⁸² Joe Strange and Richard Iron, 'Understanding Centres of Gravity and Critical Vulnerabilities', <http://www.au.af.mil/au/awc/awcgate/usmc/cog2.doc>, (14 September 2003).

⁸³ JCS, *Doctrine for Joint Operations: Joint Pub 3-0*, Washington, DC: US Government Printing Office, 1995, p. III-20.

⁸⁴ JCS, *Joint Doctrine for Campaign Planning: Joint Pub 5-00.1*, Washington, DC: US Government Printing Office, 2002, p. ix.

⁸⁵ Iron, in *Defence Studies*, Autumn 2001, p.109.

⁸⁶ *The Air Power Manual: 2nd Edition*: Fairbairn: Air Power Studies Centre, 1994, pp.7-8.

Table 1.2: The idea of centre of gravity by strategists and organisations

Identities	Definition (idea)	Feature	Preferred Approach
Newton	The centre of a body, where the gravity of different parts is thought to concentrate.	A supposed focus point. One for one body.	
Clausewitz	Hub of all power and movement, on which everything depends.	Sources of strength, or focus of force. One centre of gravity.	Direct
Sun Zi	The most decisive factor.	King or general.	Indirect
Liddell Hart	The thing that plays a decisive role.	Mind and will of enemy.	Indirect
Jomini	Those relate particularly to the destruction of hostile forces, and are decided by the objective of a campaign.	Main troops.	Direct
Mao	The most important target that one has to concentrate efforts on.	Armed Forces / main force, One centre of gravity.	Combined
Warden	The point where the enemy is most vulnerable and the point where an attack will have the best chance of being decisive.	Five rings of centre of gravity. Centre of gravity equals CV. Multiple centres of gravity.	Direct and parallel
U.S. Joint Pub 3-0	Characteristics, capabilities, or location from which a military force derives its freedom of action, physical strength, or will to fight.	Sources of strength Multiple centres of gravity.	Combined.
U.S. Air Force	Enemy's major vulnerabilities.	Five rings of centre of gravity. Centre of gravity equals CV.	Direct and parallel
U.S. Army	Principal friction and the hub of power.	One centre of gravity.	Direct
U.S. Navy	Something the enemy must have to continue military action.	One centre of gravity.	Through CV.
U.S. Marine Corps	Key weaknesses.	Multi centres of gravity.	Through CV.

From the table and what have been discussed, it is clear that the core common point about the centre of gravity is that centre of gravity (centres of gravity) is (are) where one has to focus the main effort, and the attacks on the centre of gravity are the most effective way to achieve objectives. Liddell Hart, Jomini, Sun Zi, and Mao all agreed

with Clausewitz that the main effort has to be focused on the most important target. The Joint Pub 3-0 stresses that the essence of operational art lies at being able to mass effects against the enemy's sources of power [centre of gravity]⁸⁷. The USMC advocates: 'it is not enough simply to generate superior combat power. We can easily conceive of superior combat power dissipated over several unrelated efforts or concentrated on some inconsequential object. To win, we must focus combat power toward a decisive aim.'⁸⁸ The USAF says: 'The ability to integrate a force quickly and to strike directly at an adversary's strategic or operational centre of gravity (centres of gravity) is a key theme of air and space power's manoeuvre advantage.'⁸⁹

The differences primarily focus on three points. First is the single centre of gravity against multi centres of gravity. Most of the strategists, from Sun Zi, Clausewitz, Jomini, Liddell Hart, to Mao tend to define one centre of gravity. Only John Warden advocates that the enemy has more than one centre of gravity. Among the US Armed Force's doctrines, Joint Pub 3-0, the Air Force Doctrine, and the USMC Doctrine stipulate multi centres of gravity, while the Navy and Army Doctrine define a rival with one centre of gravity.

The second is the critical capability against critical vulnerability. Jomini, Clausewitz, Mao, the US Army and Navy agreed that the centre of gravity is an enemy's principle strength, which is the key part for the enemy to achieve its objective and also the main friction in frustrating one's efforts to achieve objectives. On the opposite side, Warden, the US Air Force, and the USMC define critical vulnerability as the centre of gravity. It seems that those who adopt a multi centres of gravity concept tend to believe that the centre of gravity equals critical vulnerability. Their basic consideration seems to avoid a strength-to-strength clash, which is in line with the basic principle of war: avoid the strong and strike the weak.

The third is critical vulnerability against a source of strength. Clausewitz, the US Army and Joint Doctrine have the idea that the centre of gravity is the source of strength, while the Air Force is the strong believer of critical vulnerability. However,

⁸⁷ Joint Pub 3-0, III 20.

⁸⁸ USMC, *Warfighting: Marine Corps Doctrine Publication 1*, p.45.

⁸⁹ USAF, *Air Force Basic Doctrine*, USAF, 1997, p.17.

it should be pointed out that source of strength is different from strong points. Source of strength could be a critical vulnerability or critical capability. For example, Saddam or the Republican Guards could be a centre of gravity. But the former was likely a critical vulnerability, while the later was a critical capability.

In conclusion, Clausewitz's borrowing of the centre of gravity concept from physics has had a profound influence on military doctrines and practices. However, the interpretation of the concept is gravely diversified. Different people and different organisations define the term according to their own understanding. Even so no consensus has been reached on the original meaning of Clausewitz's definition.

Their major disagreements are: single-centre of gravity or multi-centres of gravity, critical capability or critical vulnerability, and critical vulnerability or source of strength, according to which, the approaches to the centre of gravity could arguably be roughly divided into two groups. One is 'source of power' or critical capability. The other is 'weakness or vulnerability' or critical vulnerability. Although the differences have made the concept confused and difficult to understand and implement, nearly all the strategists and organisations agree that centre of gravity (centres of gravity) is (are) where one has to focus the main effort, and attacks on the centre of gravity is the most effective way to achieve objectives. These differences and commonalities will be further discussed with the Chaos and Complex theories, before trying to make a centre of gravity definition and two centre of gravity models.

Chapter Two: Non-linear Theory and the Refinement of the Centre of Gravity Concept

'To be practical, any plan must take account of the enemy's power to frustrate it; the best chance of overcoming such obstruction is to have a plan that can be easily varied to fit the circumstances met; to keep such adaptability, while still keeping the initiative, the best way is to operate along a line which offers alternative objectives.'

B. H. Liddell Hart

'War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty . . . The commander must work in a medium which his eyes cannot see; which his best deductive powers cannot always fathom; and with which, because of constant changes, he can rarely become familiar.'

Carl von Clausewitz

In Chapter One, this thesis has discussed the various ideas of the centre of gravity. It seems that (most current military organisations have adopted a Clausewitzian approach, which defines the centre of gravity as a hub or source of power, while others define the centre of gravity as the critical vulnerability of an enemy) It is very difficult to judge which definition is better or more suitable. However, they all agree that the centre of gravity is the most important place or places where one has to focus effort, and striking the centre of gravity is the most effective way in achieving his objectives. These common points will become the basic foundation in building the centre of gravity concept by applying Chaos and Complex Theory in this chapter.

Clausewitz's centre of gravity was a linear science concept adapted from physics. While war is non-linear in nature, there can be some problems when using a mechanical concept to explain a non-linear phenomenon. It seems that in some aspects, such as the understanding of uncertainty and interaction, non-linear theory enjoys some advantages over the mechanical one. Knowing this shortcoming, some military specialists have begun to use non-linear theories, especially Chaos and Complex Theory to understand the nature of war. As for the application of non-linear theory to centre of gravity, only one writer gave a non-linear definition of the centre

of gravity.⁹⁰ Although this definition was not in line with the general idea of centre of gravity, it provides a start point for further study. Therefore, in order to combine the centre of gravity concept with non-linear science, the thesis will first discuss Chaos and Complex Theory and then use them to analyse the shortcomings of the mainstream definitions. After defining the centre of gravity with non-linear theory, the thesis will set up two centre of gravity models at strategic and operational level respectively.

Linearity and non-linearity are two phenomena in the world. T.H. Huxley believed that ‘the nature of linear systems is that if you know a little about their behaviour, you know a lot. You can extrapolate, change scales, and make projections with confidence.’⁹¹ He further summarizes four features of linearity: proportionality, additivity, replication, and demonstrability of causes and effects.⁹²

Proportionality means small inputs lead to small outputs, greater inputs to larger consequences. Additivity provides that the whole is equal to the sum of its parts and the cumulative analytic product represents a valid derivative of the original whole. Replication means under the same conditions that the same action or experiment will have the same course and result. Demonstrability of causes and effects allows people to predict the result of a process by observing, inferring, extrapolating, and statistically validating. Although the world is more non-linear than linear, linear theory is more developed than the non-linear one. People tend to treat a certain system as linear and follow predictable patterns and arrangements.⁹³

The non-linear system is opposite of the linear system. It is not proportional, additive, or replicable, and demonstrability of causes and effects are ambiguous.⁹⁴ That means one may spend little effort but get a great result, but cannot expect the strength of a

⁹⁰ Pat Pentland, ‘From Centre of Gravity Analysis and Chaos Theory, or How Societies Form, Function and Fail’, in Czerwinski, <http://www.dodccrp.org/copapp6.htm>, (14 March 2003).

⁹¹ T.H. Huxley, ‘Nonlinearity: An Introduction’, in *Coping With the Bounds: Speculations on Nonlinearity in Military Affairs*, Czerwinski, Tom (ed.), Washington, DC: National Defense University, 1998, <http://www.dodccrp.org/copch1.htm>, (14 March 2003).

⁹² T.H. Huxley, ‘Nonlinearity: An Introduction’, in *Coping With the Bounds: Speculations on Nonlinearity in Military Affairs*, Czerwinski, Tom (ed.), Washington, DC: National Defense University, 1998, <http://www.dodccrp.org/copch1.htm>, (14 March 2003).

⁹³ Manus J. Donahue III, ‘An Introduction to Mathematical Chaos Theory and Fractal Geometry’, <http://www.duke.edu/~mjd/chaos/chaos.html>, (12 February 2003).

⁹⁴ Ibid.

whole is quantitatively equal to its parts. One cannot get the same result when doing the same experiment, or deduce what will be the result of a process. Therefore, if you know a little about a nonlinear system, you don't know a lot.

War's non-linear nature is easy to identify. It is hard to predict it. No one can really foresee the exact result of a battle, a campaign or a war. War is a non-additive process where the combat strength of two soldiers does not always equal the strength of one soldier twice. Similarly war is not proportional. If one battalion can defeat one company, this does not mean two battalions can defeat two companies. War almost never repeats. In human history, there are no two wars exactly the same. War has repeatedly punished those who want to copy the former war experience to the next war. During Operation Desert Storm, the Iraqis put their tanks in sand for concealment and formed a fixed defence line, which was a very effective tactic against Iran during the Iraq and War. However, this recipe became a disaster, when the Allied used night vision equipment and infrared-guided missiles to attack those fixed targets at night.⁹⁵

Considering the nature of war, it is logical to argue whether or not the concept of the centre of gravity, which Clausewitz borrowed from linear science, is a suitable principle for war. In *On War*, Clausewitz expressed two different kinds of approach to understanding war. On the one hand is linear. Clausewitz has used quite a number of linear metaphors like the 'centre of gravity', 'military machine', and 'culmination'. He said, 'Bonaparte rightly said in this connection that many of the decisions faced by the commander-in-chief resemble mathematical problems worthy of the gifts of a Newton or an Euler.'⁹⁶ On the other hand, he believed war is non-linear, and used some non-linear metaphors, mainly 'dual', 'friction', 'fog', 'wrestling' and 'trinity'. Clausewitz stated: 'Everything in war is very simple, but the simplest thing is difficult.'⁹⁷ Because 'This tremendous friction [in the military machine], which cannot, as in mechanics, be reduced to a few points, is everywhere in contact with chance, and

⁹⁵ Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War: Volume IV: The Gulf War*, Boulder, Colo.: Westview Press, 1996, p. 512.

⁹⁶ Clausewitz, p.112.

⁹⁷ Clausewitz, p.119.

brings about effects that cannot be measured, just because they are largely due to chance.’⁹⁸

Clausewitz was largely a non-linear thinking strategic writer. Dr. Alan D. Beyerchen, claimed ‘Clausewitz perceived and articulated the nature of war as an energy-consuming phenomenon involving competing and interactive factors, attention to which reveals a messy mix of order and unpredictability.’⁹⁹ Even to the development of military theory, Clausewitz’s idea was also a non-linear one, for he pointed out ‘Our task therefore is to develop a theory... like an object suspended between three magnets’.¹⁰⁰ Arguably, when defining the centre of gravity, a linear concept in name, Clausewitz also mixed it with non-linear meaning, arguing that the centre of gravity had something to do with the interaction of the two sides. Based on the non-linear nature of war and Clausewitz’s understanding of war, it should be wise for people to treat the centre of gravity more as a non-linear concept, than a linear one. In fact, some writers have already begun to update and restate Clausewitzian concepts using nonlinear descriptions and terms.¹⁰¹

The idea of a non-linear approach to war has existed for long time. However, it was only in recent years that non-linear theory has been developed into other areas, such as deterministic chaos, fractals, self-organizing systems, complexity and complex adaptive systems, cellular automata, and so forth.¹⁰² ‘People are moving from a Newtonian and Cartesian paradigm of viewing the world as a clockwork universe, inherently mechanical, predictable, rational and reductionist, to viewing the world as flowing, adapting, nonlinear and holistic.’¹⁰³ John L. Gaddis, an American diplomatic

⁹⁸ Clausewitz, p.120.

⁹⁹ Alan D. Beyerchen, ‘Appendix 1: Clausewitz, Nonlinearity and the Unpredictability of War’, in *Coping With the Bounds: Speculations on Nonlinearity in Military Affairs*, Czerwinski, Tom (ed.), Washington, DC: National Defense University, 1998, <http://www.dodccrp.org/copapp1.htm>, (14 March 2003). The article was also published in *International Security*, Winter 1992/93, pp. 59-90.

¹⁰⁰ Clausewitz, p.89.

¹⁰¹ John Koenig, ‘Command and Nonlinear Science in Future War’, in *Maneuver Warfare Science 1998*, F. G. Hoffman, Gary Horne (ed.), Washington, DC: USMC, 1998, p. 44.

¹⁰² T.H. Huxley got the idea from Alan D. Beyerchen, <http://www.dodccrp.org/copapp1.htm>, (14 March 2003).

¹⁰³ Stephen C. Upton, ‘Warfare and Complexity Theory: A Primer’, in Hoffman, Horne, 1998, p.1.

historian suggested that the 'hard sciences' (physics, mathematics, and chemistry being examples) are of limited utility to the social sciences.¹⁰⁴

In military area, professionals seem more interested in chaos and complex theory. In April 1996, Lieutenant General Paul K. Van Riper, then Commanding General, Marine Corps Combat Development Command issued a letter to a group of officers in charge of developing Marine Corps Doctrine for the years from 2010 to 2015, in which he said: '[These manuals] will not simply codify conventional military wisdom but will expand the boundaries of doctrine by incorporating lessons from other disciplines, including the new sciences. Specifically, the manuals will incorporate as appropriate the implications of Chaos and Complexity Theory.'¹⁰⁵ In a similar case and at about the same time, Dr Andrew Ilachinski from the US Centre for Naval Analyses began to use Complex Theory to study Land Warfare. He believes that non-linear dynamic and complex systems theory are major players in 'new science', and warfare itself is a complex dynamic system.¹⁰⁶

Chaos Theory as defined by Manus J. Donahue III, is the qualitative study of unstable aperiodic behavior in deterministic nonlinear dynamical systems.¹⁰⁷ The basic principle to describe the theory is the 'Butterfly Effect', which refers to the idea that weather patterns exhibit such extreme non-linear tendencies that the movement of a butterfly's wings in China may affect the weather on some other continent in the world.¹⁰⁸

This Butterfly Effect, stressing that small variations in initial conditions may result in huge, dynamic transformations, has a profound meaning for military strategists, because using a small force to win or to beat the strong is excellence operational art. In history, there were numerous cases of this phenomenon. The collapse of the Berlin

¹⁰⁴ Paul K. Van Riper, 'Casting the Net Widely: Metaphors to Models', in Hoffman, Horne, 1998, p. 22.

¹⁰⁵ Christopher Bassford, 'Doctrinal Complexity: Nonlinearity in Marine Corps Doctrine' in Hoffman, Horne, 1998, p. 9.

¹⁰⁶ Andrew Ilachinski, *Land Warfare and Complexity, Part II: An Assessment of the Applicability of Nonlinear Dynamics and Complex Systems Theory to the Study of Land Warfare (U)*, Virginia: Centre for Naval Analyses, 1996, p.13.

¹⁰⁷ Manus J. Donahue III, 'An Introduction to Mathematical Chaos Theory and Fractal Geometry', <http://www.duke.edu/~mjd/chaos/chaos.html>, (12 February 2003).

¹⁰⁸ Michael R. Weeks, 'Chaos, Complexity and Conflict', <http://www.airpower.maxwell.af.mil/airchronicles/cc/Weeks.html>, (12 March, 2003).

Wall induced the breaking up of the Soviet Empire and ending of the Cold War. The North Vietnamese and the Vietcong's Tet Offensive created serious political ramifications in the United States, which further resulted in the final withdrawal of American troops from Indochina.¹⁰⁹ The strategy of terrorists also aims to achieve a big gain by using terror to bring a psychological impact on a nation.¹¹⁰

As to the application of Chaos Theory, Dr. Linda P. Beckerman connected attrition warfare with linearity and manoeuvre warfare with the Butterfly Effect.¹¹¹ David Nicholls and Todor Tagarev argued in 'What Does Chaos Theory Mean For Warfare', 'If warfare is chaotic, then chaos theory suggests centres of gravity may be found where there is a nonlinear process in the enemy's system.'¹¹² This suggests that by attacking centres of gravity, one may achieve a nonlinear effect.

Comparing with chaos theory, Complex Theory is younger and less developed, but is attracting more attentions. The central part of the theory is to consider social organizations as complex adaptive systems (CAS).¹¹³ Although there is no concise definition of the concept, the main idea is similar. Relevant here is the definition by Kevin Dooley from Arizona State University, who forged the theory from the works of Gell-Mann (1994) Holland (1995), Jantsch (1980), Maturana and Varela (1992), and Prigogine and Stengers (1984).¹¹⁴ According to Dooley,

CAS is composed of agents. Agents scan their environment and develop schema representing interpretive and action rules. Schemas exist in multitudes and compete for survival. Actions between agents involve the exchange of information and/or resources. Agent tags facilitate the formation of aggregates, or meta-agents. Meta-agents help distribute and decentralize functionality, allowing diversity to thrive and specialization to occur.

¹⁰⁹ Robert D. Schulzinger, *American Diplomacy in the Twentieth Century*, New York: Oxford University Press, 1994, p.285-286.

¹¹⁰ Colin S. Gray, 'Thinking Asymmetrically in Times of Terror', *Parameters*, Spring 2002, pp. 5-7.

¹¹¹ Linda P. Beckerman, 'The Non-linear Dynamics of War', http://www.belisarius.com/modern_business_strategy/beckerman/non_linear.htm, (2 March, 2003).

¹¹² David Nicholls, Todor Tagarev, 'What Does Chaos Theory Mean For Warfare?', <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj94/nichols.html>, (2 March, 2003). The article was also in *Aerospace Power Journal*, Fall 1994.

¹¹³ Michael R. Weeks, 'Chaos, Complexity and Conflict', <http://www.airpower.maxwell.af.mil/airchronicles/cc/Weeks.html>, (12 March, 2003).

¹¹⁴ Kevin Dooley, 'Complex Adaptive Systems: A Nominal Definition', <http://www.eas.asu.edu/~kdooley/casopdef.html>, (1 March, 2003).

In a CAS, all agents are able to sense, learn from, and adapt to their environment. Interconnection of agents is just as important as what those agents are and what parts do. The effect that agents have on the others of the system is determined by the context of the whole within which those parts exist. In referring to any part of a complex system, one must also point to various other parts with which the part concerned interacts.¹¹⁵

Paul Johnson argued that the most distinctive feature of Complex Theory is the consideration of interactions among the agents, which is the major inadequacy of linear theory.¹¹⁶ Robert Jervis identifies these interactions as one of major reasons that lead to unintended consequences.¹¹⁷ He summarized two influences of interactions. First is that results cannot be predicted from the separate actions. For instance, at late 19th and early 20th centuries, dropping the Reinsurance Treaty with Russia in 1890 simplified German diplomacy, but the indirect and delayed consequences resulted in Russia's turn to France, which increased Germany's need for Austrian support, thereby making Germany hostage to her weaker and less stable partner. The second influence is that one's strategies depend on the strategies of others. The competing sides usually consciously react to each other and anticipate what the other will do.¹¹⁸

The complexity caused by the interactions of various parts within the system requires a non-linear approach to understanding and controlling social process. However, as already discussed in Chapter One, the principal definitions of the centre of gravity are linear. In Joint Pub 3-0, the centre of gravity is defined as characteristics, capabilities, or locations, in fact a kind of source of power for others. According to complex theory, this definition may have three shortcomings. First, the interaction and interdependence of different components make it very hard or sometimes impossible to identify the source of power. This is part of the reason that why there are so many opinions about what the enemy's source of power is in a certain war. For example in Iraq, Saddam needed the Republican Guards' support to rule the country and to fight the US. Equally the Republican Guards depended on Saddam's leadership,

¹¹⁵ Ilachinski, pp. 140-142.

¹¹⁶ Paul Johnson, 'The Nature of Linear Reductionism', in Czerwinski, <http://www.dodccrp.org/copch2.htm>, (14 March 2003).

¹¹⁷ Robert Jervis, 'Complex Systems: The Role of Interactions', in Czerwinski, <http://www.dodccrp.org/copapp4.htm>, (14 March 2003).

¹¹⁸ Robert Jervis, 'Complex Systems: The Role of Interactions', (14 March 2003).

confidence, and financial support. So, which one is the centre of gravity? Similarly over battlefield, the air force gets its freedom of action partly from the ground force. Without the ground force to defend the airport and front line, enemy may occupy it and thus the air force loses its freedom of action. The same may be more obvious for the army in modern war, without air cover, the army would find it difficult or even impossible to undertake operations. It may also be argued that in every war public support is the real source of power, and thus the centre of gravity. Arguably, this kind of interdependence makes commanders and staffs puzzled when using the 'source of power' as a criterion for identifying the centre of gravity.

The second weakness of the definition is that it does not consider the operational environment. War is a life and death competition between two rivals. The importance of any part in a war system is not only decided by its own strength and position within its system, but also by the interactions between the rivals, and the operation environment. In Iran and Iraq War, the Iraqi Air Force was its strong point, when its ground troops were outnumbered by Iran. Nevertheless, in the Gulf War, Iraqi Air Force became its weak point, while the ground forces formed the main threat to allied forces. Contrasting the roles of air power in two Gulf Wars, the air power has played prominent role, if not the decisive one in the first Gulf War. But in the 2003 Gulf War, it was clearly the land power played the decisive role, because air power was largely restrained by the urban warfare.

Finally, but not of least importance, the definition is not connected with its own objective. Generally speaking, the higher the objective, the more effort has to be spent, and more resistance could be expected. The required effort to occupy a country is much higher than the one to force a country to give up something not critical. In the 2003 Gulf War, the US-led coalition forces' objective was to overthrow the Iraqi Government, to do this, they had to committed thousands of ground troops to conduct urban warfare. Relatively high casualties were acceptable to the Governments. During the 1999 Kosovo war, NATO's objective was 'to demonstrate the seriousness of NATO's opposition to aggression,' to deter Milosevic from 'continuing and escalating his attacks on helpless civilians,' and, if need be, 'to damage Serbia's capacity to wage war against Kosovo by seriously diminishing its military

capabilities.’¹¹⁹ Based on these objectives, the US President Clinton did not want to risk American soldiers’ lives and ruled out the possibility of using ground troops from the very beginning of the war.¹²⁰ Thus the destruction of Serbian ground troops was not as important as the destruction of those targets, such as communication centres, power systems, and media facilities, which has more impact on Milosevic.

Therefore, the ‘source of power’ definition is more like a “within-system approach”, which is not suitable for dealing with a non-linear phenomenon. On the opposite side, Chaos and Complex Theory advocate a whole system approach, treating the system as a whole from the first. Furthermore, in Joint Pub 3-0, the centre of gravity is supposed to be an analytical tool for commanders and staffs in planning campaigns and operations to analyse friendly and enemy sources of strength as well as weaknesses and vulnerabilities.¹²¹ Based on this requirement, a COG defined by the definition, should, on the one hand, like a lighthouse, which gives a general direction for the following planning, or lower level planning, while on the other hand, like a magnet, to which all effects should be directed. It could be argued that the ‘source of power’ is not in line with the intended roles, which the concept should play.

The second approach to the centre of gravity is the ‘weakness and vulnerability’ one, mainly adopted by the US Marine Corps and the US Air Force. Apart from the main disadvantages of ‘source of power’ definition, the definition may be questioned on three other grounds. The first is that focusing efforts on weakness and vulnerability may lead in the wrong direction. Because of interactions within the enemy, between the two rivals, and even from the region or world, the final result of the attack on the weakness and vulnerability may appear to be quite different from what was planned. The enemy may even become stronger, more hostile, and offensive. In 2001, the terrorists attacked the US’s weakness and vulnerability, the hardly-defended cities of New York City and Washington, resulting in huge casualties. However, this attack arguably is not good for objectives, such as driving the US out of Saudi Arabia, or setting up an Islamic States. Instead the attack has greatly strengthened the US will to

¹¹⁹ Benjamin S. Lambeth, *Nato’s Airwar for Kosovo: A Strategic and Operational Assessment*, Arlington: Rand, 2001, p. 19.

¹²⁰ Statement by President William Jefferson Clinton, Washington, DC, March 24, 1999.

¹²¹ JCS, *Doctrine for Joint Operations: Joint Pub 3-0*, Washington, DC: US Government Printing Office, 1995, p. III-20.

fight terrorism, and threatened the terrorists' own existence. So, attacking weakness and vulnerability is not a goal in itself. A weak or vulnerable point may be attacked, not because it is weak or vulnerable, but because the attack can result in the achievement of operational or strategic objectives. Weakness and vulnerability are not necessarily the places to focus one's efforts.

The second point is that the centre of gravity could be strong, not necessary weak or vulnerable. In order to succeed, one has to focus effort to attack it. For example, the Republican Guards were the elite troops of Iraq. They were thought to be the centre of gravity of Iraqi troops in the 1991 Gulf War,¹²² and so they had to be attacked. The last point is that the centre of gravity is where one has to focus his efforts. If the centre of gravity is defined as an enemy's weakness and vulnerability, then one may have quite a number of centres of gravity, which may raise the question of where to focus one's efforts.

The fallacy of multi centres of gravity has, arguably, originated from the confusion over the centre of gravity being a critical vulnerability. The USMC's doctrine about the relationship between the centre of gravity and critical vulnerability may provide a way for people to understand the confusion and the origination over multi centres of gravity. The doctrine states: 'We want to attack the source of enemy strength [centre of gravity], but we do not want to attack directly into that strength. We obviously stand a better chance of success by concentrating our strength against some relative enemy weakness.'¹²³ It is clear here that attacking critical vulnerabilities is not the goal. The main efforts and effects are focused on the centre of gravity, though separate attacks may be conducted against different critical vulnerabilities (CV) in the enemy system. Attacking critical vulnerabilities is just a method of approaching the centre of gravity by trying to achieve the Butterfly Effect.

Warden uses a systematic approach in his Five Rings Model application of COG, despite also defining the COG as the a'weakness and vulnerability'. He strongly advocates 'we must think from the big to the small, from the top down. We must think

¹²² Unknown Author, 'Desert Shield and Desert Storm', http://www.ku.edu/~kunrotc/academics/380/gulf_war.doc, (25 June 2003).

¹²³ USMC, *Warfighting: Marine Corps Doctrine Publication 1*, Washington, DC: USMC, 1997, p. 46.

in terms of systems; our enemies and we (us) are systems and subsystems with mutual dependencies. Our objective will almost always involve doing something to reduce the effectiveness of the overall system.'¹²⁴ His approach to these centres of gravity on the Five Rings is one of parallel attack. Erik J. Dahl argued that Warden's parallel warfare is nonlinear, 'in which numerous vital targets are struck simultaneously – as opposed to the old 'serial warfare' in which commanders had to concentrate their forces against a single enemy vulnerability, and then repeated the process.'¹²⁵

However, some others thought Warden's Five Ring Model still lacks non-linear thinking. Major Weeks of the US Air Force (USAF), when using chaos and complex theory to describe combat, used Warden's model as the basic parts of his paper. However, he clearly pointed out that 'interdependencies between the actors in the conflict are not readily apparent in the five ring model.'¹²⁶ Dr Lewis Ware may be the most critical of the Five Ring Model. He argues that the model produces a picture of the enemy as a disembodied and static 'unit'. It does not demonstrate why this degradation (of importance from the centre) actually happens. Parallel warfare obscures the value of individual elements within the centres of gravity. The graded value that the five-ring analysis assigns to each centre of gravity in the system is deprived of significance since – under conditions of parallel warfare – all centres of gravity are equal, for all intents and purposes.¹²⁷

Therefore, it appears that the current concepts and application of the centre of gravity lack non-linear thinking. They do not consider the interactions within the friendly side and the interactions between the rivals. To some extent, they have deviated from Clausewitz's original thinking about the centre of gravity, for Clausewitz ^{in d}remained us that 'one must keep the dominant characteristics of both belligerents in mind',¹²⁸ which arguably means that one has to consider the interaction of the warring sides when identifying the centre of gravity.

¹²⁴ John A. Warden III, 'The Enemy as a System', <http://www.airpower.maxwell.af.mil/airchronicles/apj/warden.html>, (22 April 2003).

¹²⁵ Erik J. Dahl, 'Network Centric Warfare and the Death of Operational Art', *Defence Studies*, Spring 2002, p.11.

¹²⁶ Weeks, 'Chaos, Complexity and Conflict', (12 March, 2003).

¹²⁷ Lewis Ware, 'Some Observations of the 'Enemy as a System'', <http://www.airpower.maxwell.af.mil/airchronicles/apj/ware.html>, (15 March 2003). The article was also published on *Airpower Journal*, Winter 1995.

¹²⁸ Clausewitz, p. 595.

It appears that there is a lack of application of non-linear theory to the centre of gravity concept. Former US pilot Pat Pentland has tried to give a definition to the centre of gravity.¹²⁹ Pentland started from the definition of power. He argued that power is the ability to do what you want, and the ability to influence others to conform to your desires. Power is three dimensional, consisting of ‘source’, a manifestation (or ‘force’), and a ‘linkage’. If the power is complete, then it is a centre of gravity. So, the logical development is that all the powers are centres of gravity, if they have the three dimensions, no matter whether it is important or not. The dimensions in human society are shown in the following table 2.1.¹³⁰

Table 2.1: Elements of Power by Pat Pentland

Source	Linkage	Force
Armed Force	Command & Control Training & Logistics	Military
Government Bureaucracy	Leadership & Communication	Political & Diplomatic
Industry & Natural Resources	Transportation & Technology	Economic
Society & Culture	Family, Education, & Socialization	Social-Cultural
Value System	Religion & Philosophy Indoctrination	Ideological

It could be argued that this definition is contradicted by what Clausewitz meant and what people want it to be. The centre of gravity metaphor has been used to express the most important things where one has to focus his efforts. If a complete element of power with three dimensions is a centre of gravity, then the five national elements of power could become centres of gravity at the same time. Therefore, the concept has no meaning in analysing enemy and planning for war. However, the exploration of the elements of power is a useful way in understanding the power structure of an organisation. It provides a departure place for defining the centre of gravity.

¹²⁹ Pat Pentland, ‘From Centre of Gravity Analysis and Chaos Theory, or How Societies Form, Function and Fail’, in Czerwinski, <http://www.dodccrp.org/copapp6.htm>, (14 March 2003).

¹³⁰ Pat Pentland, ‘From Centre of Gravity Analysis and Chaos Theory, or How Societies Form, Function and Fail’, in Czerwinski, <http://www.dodccrp.org/copapp6.htm>, (14 March 2003).

Based on the above discussions, the following propositions could be applied to the concept of the centre of gravity: a system has only one centre of gravity; it is the place all efforts have to be focused on; it is the closest and effective way to achieve the objective; the centre of gravity is the result of interactions between actors; the centre of gravity is changeable during the course of the war; and the approach to the centre of gravity could be direct or indirect. Combining these propositions with Pat Pentland's concept of power, the thesis tries to define enemy's centre of gravity as: *the enemy's most critical element of power, to strike at which is the most practical and effective way to achieve one's objectives. It is the place where the effects of one's efforts have to be put. The centre of gravity may change because of the interaction of the competitors and the changing environment.*

It is necessary to point out, the most critical element is not necessary the strongest one. The purpose of the definition is trying to stress the dependency of the centre of gravity on the interactions. Based on the definition, the thesis will build up a strategic and operation COG model.

The strategic model tries to deal with national strategy in a war. In recent high-tech limited wars, the line between national strategy and military strategy is becoming blurred. In order to defeat the other side, the competitors try to mobilize all their national instruments. When speaking in NATO Headquarters about fighting terrorists, US Defence Minister Donald Rumsfeld said: 'we need to turn all elements of our national power to bear on solving [the] problem. [Terrorists]'¹³¹ As to the definition of national power, the Australian navy define it as the nation's ability to achieve its national objectives.¹³² The US defines it as the power or influence a nation can bring to bear in the world in an effort to defend its national interests.¹³³ As to the elements of national power, most political scientists agree on four broad elements of national power: political, economic, military and socio-psychological.¹³⁴ Some institutions or

¹³¹ Rumsfeld Donald's speech in NATO on 6 June 2002, <http://www.nato.int/docu/speech/2002/s020606d.htm>, (20 May 2003).

¹³² Australian Navy, *Australian Maritime Doctrine*, <http://www.navy.gov.au/newspc/amd/chapter4.pdf>, (20 May 2003).

¹³³ Geopolitical Resource, 'Threat Analysis – National Power', <http://www.dl.army.mil/portals/geopolitical/thr/thr305.htm>, (20 May 2003).

¹³⁴ Geopolitical Resource, 'Threat Analysis – National Power', (20 May 2003).

person may have slightly different approaches. The Australia Land Warfare Studies Centre believes it includes political/diplomatic, economic, military and social elements.¹³⁵ The US National Defence University places more stress on the employment of diplomacy, military action, and economic action.¹³⁶ Pat Pentland identifies five, dividing social element into social-cultural and ideological.¹³⁷ However, some professionals, such as US retired LTG Patrick M. Hughes¹³⁸, Pete Pagano¹³⁹, and Lt. Gen. B.B. Bell¹⁴⁰, the commander of the III Army Corps, advocate information as an element, considering the increasing importance of information in modern warfare.

There are also some definitions, which divide national power into more detailed parts. For example, China's definition includes a nation's natural resources, economic capabilities, external trade and investment capabilities, science and technology capabilities, level of social development, military capabilities, level of governmental efficacy, and diplomatic capabilities.¹⁴¹ Hans Morgenthau, a preeminent US political and grand strategic theorists, opined that it is composed of geography, natural resources, industrial capacity, military preparedness, population, national character, national morale, and the quality of government.¹⁴² Although these detailed definitions offer a better view, considering the practical purpose of the model, the model tends to adopt a more simple approach.

The model will include five elements of power: military, politics, diplomacy, economy, and social value. The purpose of considering politics and diplomatic element as separate is to stress the interactions of the warring sides with the outside world. Therefore, the political element of power is mainly confined to the domestic

¹³⁵ Australia Land Warfare Studies Centre, 'Australian National Strategy', <http://www.defence.gov.au/army/lwsc/Conf%20Activities/strategy.htm>, (20 May 2003).

¹³⁶ USNDU, 'War Studies: Military Strategy and Logistics', <http://www.ndu.edu/ica/departments/milstratlogistics/topics/15.rtf>, (12 May 2003).

¹³⁷ Pentland, (14 March 2003).

¹³⁸ Patrick M. Hughes, 'It's the Economy', <http://www.mrfa.org/article3.htm>, (11 May 2003).

¹³⁹ Pete Pagano, 'Nation Building Is not a Four Letter Word', http://www.uwosh.edu/faculty_staff/palmeri/commentary/pagano3.htm, (11 May 2003).

¹⁴⁰ Roxana Tiron, 'Joint Exercise Stresses Info Sharing, Delivery: Millennium Challenge War-fighting Experiment Is Looking Ahead to 2007', <http://www.nationaldefensemagazine.org/article.cfm?Id=863>, (12 May 2003).

¹⁴¹ 'National Strategic Objectives Subarena', <http://www.rand.org/publications/MR/MR782.1/MR782.1.chap2.pdf>, (March 20 2003).

¹⁴² Brin Nichiporuk, 'The Evolving View of Population as a National Security Variable', <http://www.rand.org/publications/MR/MR1088/MR1088.chap2.pdf>, (April 16 2003).

sphere, including the quality of government, government will, and public support to the war and government. The diplomatic element is the power to win the support from outside, consolidate the alliance, or negotiate an agreement with an opponent. The economic element includes not only a national economic strength to support the war, but also the capabilities to affect others. If the destruction of a country's economy will greatly hurt its rivals or the opposing country, then the economic element of power is strong, even though its economic strength is not very strong. The social element is more complicated than the others. It extends to such areas as values, culture, ideology, quality of population and religions.

The reason that the model does not include an information element is the consideration that at the national strategic level, informational power is mixed with other powers. It is like a multi-role agent, becoming one component of the others. For example, military information power is part of the military. Internal propaganda could be treated as part of political power, but directed outwards as part of diplomatic power. Therefore, the model would like to consider its role within other elements of power. The following is the strategic model.

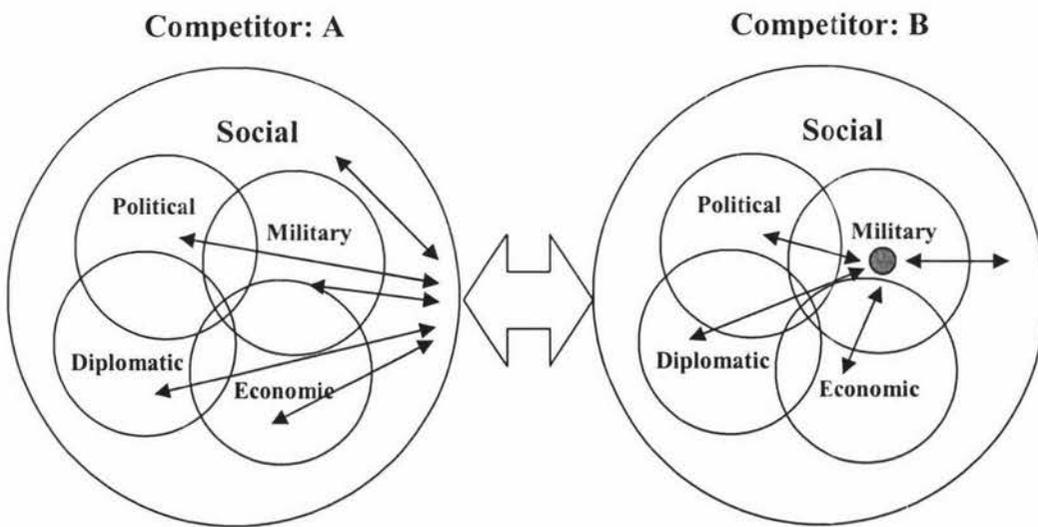


Diagram 2.1: Strategic centre of gravity analytical model

In Diagram 2.1, the model demonstrates the interactions within the competitor B, and shows the interaction between A and B. In the model, each element has the potential to become the centre of gravity of the system, as the military power being the COG of competitor B. It also shows that the effects of all the attacks by A should point to the

COG of B. The attack on one element will have impacts on other elements, though the extent is different. There also exists the possibility that the centre of gravity may be a combined one, saying diplomatic and military elements. The attack on the centre of gravity by a single element of power is less effective than using all elements of power together. Pentland argued that as a rule of thumb for nation states would categorize their strengths in decreasing order as: cultural, economic, political, diplomatic, and military. This partly explains the historic difficulty of targeting military force against deeply rooted political, economic and cultural systems.¹⁴³ By contrast, the projected range and the time of response are inversely proportional to the strength. Military force project fast and over long distances. Economic force project slower, over shorter distances, and require a longer period to produce effects.

The operational model adopts a similar approach. From recent high-tech wars, it is obvious that the domains are extending from traditional air, land, and sea to space and information area.¹⁴⁴ In the past information tended to survive in other elements of power. However, information is increasingly becoming a source of power. To succeed or survive, all organizations, both civilian and military, must successfully exploit the power of information.¹⁴⁵ Information warfare, involves such diverse activities as psychological warfare, military deception, electronic combat, and both physical and cyber attack.¹⁴⁶ In the Afghanistan War and 2003 Gulf War, information warfare has been exploited to attack the morale of Majahatin, Iraq troops and civilians.

Space power is also becoming important. The dominance of space has provided the US profound advantages in access to information collection, processing and transferring. However, at this stage, the space power is still a supplementary one. No space weapon systems will be practical in the near future. Therefore, the operational model does not include the element of space at this stage.

As a kind of social organization, the military has its own underlying element of power, which includes military culture, ethics, professionalism, doctrinal

¹⁴³ Pentland, (14 March 2003).

¹⁴⁴ JCS, *Joint Vision 2010*, Washington DC: US Government Printing Office, 1997, p. 28.

¹⁴⁵ Dahl, Erik J., 'Network Centric Warfare and the Death of Operational Art', *Defence Studies*, Spring 2002, p.10.

¹⁴⁶ USAF, *Air Force Basic Doctrine*, Maxwell AFB: Headquarters Air Force Doctrine Centre, 1997, p. 52.

development, and military establishment. The attack on this element may not have a quick effect. But once it is really affected, the effect will be profound and have a great impact on other elements of power. Similar to the strategic model, air, land, sea, and information elements of power are supposed to be built upon this element. The relationship between these elements of power is shown in the following model.

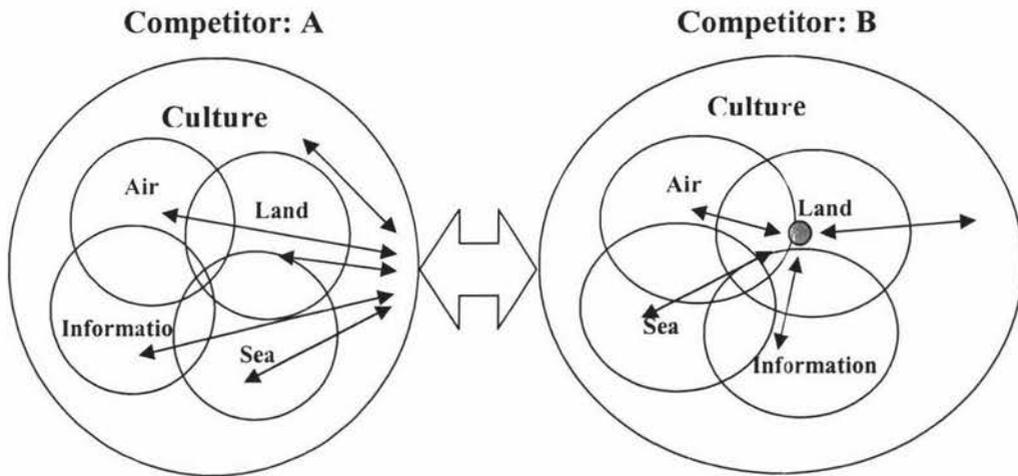


Diagram 2.2: Operational centre of gravity analytical model

In Diagram 2.2, the model shows the interactions among different elements of power within competitor B, and demonstrates the interactions between the elements of power of A and B. It also shows that the effects of all the attacks by A on B should point to the COG of B, for example the land power here.

In summary, although Clausewitz included non-linear ideas in his centre of gravity theory, it was largely ignored by his followers. Most of the current centre of gravity definitions are linear in nature. They do not include the elements of non-linearity, especially the interdependency and interactions between various actors. So it is understandable that the 'source of power' definition and confusion between the centre of gravity and critical vulnerability often lead commanders into difficulty in identifying centres of gravity. As a guide for planning and operations, the centre of gravity has to be a concept concerning the whole system. This is because the characteristics demonstrated by a non-linear system, as the results of interactions of components, may be totally different from those of its separate components. Based on this consideration, the thesis defines the centre of gravity as the enemy's most critical

element of power, to strike at which is the most practical and effective way to achieve one's objectives. It is the place where the effects of one's efforts have to be put.

The two models formulated above adopted a similar approach. The strategic model is for the centre of gravity analysis at national strategic level, while the operational model is for military campaigning. The attack of one side on the other side will result in counteraction of the other. The single element of power is less productive if it is used against an enemy's centre of gravity. Military action, diplomatic pressure, and economic sanctions should be combined together to achieve maximum effect. In the following four chapters, the thesis will apply the models to different wars and operations, to analyze the importance of identifying the centre of gravity.

Chapter Three: Case Study of the Vietnam War



Source of the map: <http://www.cnn.com/SPECIALS/cold.war/episodes/11/maps/>

One country may support another's cause, but will never take it so seriously as it takes its own. A moderately-sized force will be sent to its help; but if things go wrong the operation is pretty well written off, and one tries to withdraw at the smallest possible cost.

Clausewitz

The Vietnam War, the Second Indochina War, was one of the most traumatic and long-lasting conflicts for the United States in the last century. The United States' involvement in the war was mainly the result of its commitment to contain the rapid development of the communist movement.¹⁴⁷ From 1954 to 1973, the US poured in a

¹⁴⁷ Peter Calvocoressi, *World Politics Since 1954*, London: Longmans, Green and CO Ltd, 1968, p. 295.

large number of troops and billions of dollars to protect South Vietnam from falling to the Communist North. However, the US was defeated under the cover of a 'face-saving withdrawal'.

As to reasons for the failure, at the strategic level, Jeffrey Record attributed the lack of recognition that one side, Vietnam, fought a total war, while the US, of necessity, waged a limited war¹⁴⁸. Harry Summers argued that: "Our problem was not so much interference as it was the lack of a coherent military strategy..."¹⁴⁹ General Colin Powell tried to think of it ideologically, saying that 'our political leaders...led us into a war for the one-size-fits-all rationale of anticommunism, which was only a partial fit in Vietnam, where the war had its own historical roots in nationalism, anti-colonialism, and civil strife beyond the East-West conflict.'¹⁵⁰ James R. Ward believed that it was the failure to adopt two strategies; a strategy to enable the South Vietnamese to defeat the Vietcong insurgency and a strategy that would enable the American forces to stop the North Vietnamese infiltration and invasion of South Vietnam.¹⁵¹ Other reasons such as the disordered command system, the self-defeating personnel rotation policies, gradual escalation strategy, and the anti-war movement at home were mentioned as well.

There is no doubt that all the above reasons contributed to the final outcome. This Chapter does not intend to challenge these ideas, but will try to analyse the war along a different route by using the strategic centre of gravity model produced in Chapter Two. In doing so, this Chapter will analyse which elements of power of Vietnam and the US, including political, economic, military, diplomatic, and cultural elements, were the critical obstacles or the centres of gravity.

The US involvement in Indochina began with support for the French to regain control of its former colonies,¹⁵² though this contradicted the US commitment to and belief in

¹⁴⁸ Jeffrey Record, 'The Critics Were Right', *Proceedings*, November 1996, p. 64.

¹⁴⁹ Harry G. Summers, Jr., *On Strategy, A Critical Analysis of the Vietnam War*, Novato, CA: Presidio Press, 1982, p.143.

¹⁵⁰ Cited in Jeffrey Record's 'The Critics Were Right', p. 65.

¹⁵¹ James R. Ward, 'Vietnam: Insurgency or War', *Military Review*, January 1989, p. 23.

¹⁵² John G. Stoessinger, *Why Nations Go to War*, Basingstoke: Macmillan Press, 2001, p.84.

self-determination of colonial countries.¹⁵³ After World War II, the contradictions between the capitalist countries, with the US at the head, and socialist countries, led by the Soviet Union (USSR) became the main feature of world politics. The concepts of the 'iron curtain' and 'containment' came to shape the entire American view of foreign affairs, and President Truman, began to see himself as the leader of an embattled "free world" resisting the expansion of a ruthless totalitarianism.¹⁵⁴ The American aid to France's actions in Indochina steadily grew: \$157 million in 1950, \$300 million in 1951, \$500 million in 1953, and \$1 billion in 1954.¹⁵⁵ However, when the decisive Dien Bien Phu battle¹⁵⁶ began in March 1954, the US refused to provide direct military support, seeing the French losing their initiative in the battle and finally surrendering to the Viet Minh.¹⁵⁷ The loss of Dien Bien Phu spelt the eventual loss of Indochina for France, as General Paul Ely, commander of French troops, had predicted to President Eisenhower during Ely's trip to the US before the operation started.¹⁵⁸ It also could be considered as the transit point where the US began to take the responsibility from France to contain communist expansion in Indochina.

The Geneva Conference was opened on 26 April 1954 and ended with an agreement dealing with the Indochina issue.¹⁵⁹ According to the agreement, Vietnam was partitioned roughly along the 17th parallel. A nationwide election on reunification of the two parts was to occur two years later, in 1956.¹⁶⁰ However, the planned election did not come for the Viet Minh, who would probably have won the election, if it had been held.¹⁶¹ The US and the South Vietnamese government, headed by the anti-communist Ngo Dinh Diem,¹⁶² refused to hold the election, believing that such an election was bound to transfer the whole country to communist rule.¹⁶³ From 1954 to 1956 the steady French withdrawal from Vietnam was paralleled by increasing

¹⁵³ Leslie H. Gelb and Richard K. Betts, *The Irony of Vietnam: the System Worked*, Washington, DC: The Brookings Institution, 1979, p.55.

¹⁵⁴ Stoessinger, p. 82.

¹⁵⁵ Stoessinger, pp. 84-85.

¹⁵⁶ A battle between French and Viet Minh, which was the turning point of French effort in Indochina.

¹⁵⁷ Gelb, Betts, pp. 56-59.

¹⁵⁸ Stoessinger, p. 86.

¹⁵⁹ Calvocoressi, p.292.

¹⁶⁰ Calvocoressi, p.294.

¹⁶¹ Ibid.

¹⁶² A South Vietnam general who eliminated Bao Dai, the former Emperor of Vietnam picked up by France in 1947 as its puppet.

¹⁶³ Calvocoressi, p.294.

degrees of the US involvement.¹⁶⁴ In April 1956, the US formally replaced France as the principal player, after France dissolved its military command in South Vietnam.

Over the following years of commitment, four US presidents, Eisenhower, Kennedy, Johnson, and Nixon, were involved in the conflict, with the first three got the US further into the conflict, although their original intentions were not, and Nixon striving to pull the US out of the disastrous war.¹⁶⁵ From the beginning of the conflict to early 1968, the objective of the US was to contain communist expansion and avoid the domino effect, and in time to withdraw the US troops from Vietnam with honour.¹⁶⁶

The first objective, to contain communism, more specifically to keep South Vietnam from falling to the Communist North was adhered to through 1954 to 1968. The formulation of this objective was directly connected with the struggle between the communist and capitalist worlds after the end of the World War II, and based on two critical theories: the concept of containment and the domino effect.

The concept of containment, first put forward by George Kennan in July 1947, advocated that the main element of any United States policy toward the Soviet Union must be that of a long-term, patient but firm and vigilant containment of Russian expansive tendencies.¹⁶⁷ President Truman acted quickly to incorporate Kennan's concept as the cornerstone of the US policy, and advocated that the international policy was a zero-sum struggle for world domination, with the Soviet Union as an aggressive power bent on conquering the world.¹⁶⁸

The Vietnam conflict was thought to be part of Soviet expansionism. If the communists succeeded in South Vietnam, it would cause the fall of Laos and Cambodia to the communists, followed by Thailand, Malaysia, Indonesia, and the whole of Southeast Asia, which would further encourage communist ambitions to

¹⁶⁴ Douglas A. Borer, *Superpowers Defeated: Vietnam and Afghanistan Compared*, London: Frank Cass, 1999, p. 67.

¹⁶⁵ Stoessinger, pp. 85-106.

¹⁶⁶ Robert H. Miller, 'Vietnam: Folly, Quagmire, or Inevitability?', *Studies in Conflict and Terrorism*, Volume 15, 1992, pp. 99-123.

¹⁶⁷ George Kennan, 'The Sources of Soviet Conduct', *Foreign Affairs*, July 1974, p. 867.

¹⁶⁸ Borer, p. 55.

expand in Latin America and Europe. This possibility of the domino effect was already demonstrated in the fall of China to communist rule, the Korean War, and the victory of the Viet Minh. Upon this judgement, the US thought it had no choice but to intervene to stop the falling of the South.

The threat to the South primarily came from the insurgency by the Vietcong and infiltration of war material and regular armed forces by the North to the South. After the South's refusal of the election, the Vietcong, facing harder and harder suppression from the South's government, increased its armed struggle against the Diem government at the end of the 1950s. Associate Professor Ngo Vinh Long from the University of Maine divided the South's insurgency into five periods: the first, from 1955 to 1960, involved spontaneous and widespread resistance, and the formation of the National Liberation Front (NLF) of South Vietnam. The second period, from 1961 to mid-1965, saw coordinated struggles under the leadership of the NLF in the countryside and widespread urban opposition led by a variety of religious and political organisations. The third period, from mid-1965 to the end of 1968 was the war of attrition, culminated in the Tet offensive. The fourth was called the 'talk-fight' period of Nixon's Vietnamization from 1969 to the end of 1972. The last was known as the 'post-war war' from 1973 to the fall of Saigon in 1975.¹⁶⁹

The North's infiltration was largely coordinated with the needs of operations in the South. After the hope to reunite the country was frustrated by the South, the North gradually changed its policy towards the South. A noticeable change took place in its 15th Vietnam Workers Party Central Committee Plenum on 13 January 1959, at which the Party decided the basic revolutionary path of the South was through uprisings to seize power.¹⁷⁰ As one part of the efforts, the North established an organization coded as Group 559 to create and operate an overland supply system, known as Ho Chi Minh Trail to provide the NLF with war material and regular forces.¹⁷¹ The strategy

¹⁶⁹ Ngo Vinh Long, 'South Vietnam', in *The Vietnam War*, Peter Lowe (ed.), New York: St. Martin's Press, 1998, pp. 64-65.

¹⁷⁰ Nguyen Vu Tung, 'Coping with the United States: Hanoi's Search for an Effective Strategy', in Lowe, 1998, p. 40.

¹⁷¹ Darrel D. Whitcomb, 'Tonnage and Technology: Air Power on the Ho Chi Minh Trail', *Air Power History*, Spring 1997, pp. 4-17. It was downloaded from the website of <http://www.proquest.com>, (15 May 2003) by the NZ Defence library.

of the North and the NLF was to combine military, diplomatic, and political efforts to wear out the US will to fight in a protracted war.¹⁷²

North Vietnam and the NLF's centre of gravity

To the US, the North's economy was a weak element. As an agricultural country, the North had few military or military-related industries. Its war materials were mainly supplied by its allies, with the Soviets for heavy or sophisticated arms and China for small arms and food. For example, the import in 1967 averaged about 4,500 tons per day (400 tons of munitions, 500 tons of petroleum products (POL), 600 tons of other war supporting material, 1500 tons of manufactured goods and miscellany, and 1,500 tons of food.)¹⁷³ However, this weak economy on the other hand became less vulnerable when facing massive US bombings, thus reducing the pressure the US planned to impose on the North. Destroying the North's economy did not have much influence on the North's war capability, though it was very difficult to achieve that. To purposely bomb the North's paddy fields would cause serious moral damage both abroad and at home. 'Public opinion in Scandanavia and the UK would very probably force their governments to denounce US policy in VN [Vietnam]. This might also happen in Australia, New Zealand, and Japan.'¹⁷⁴

Politically, the North and NLF had a strong will to fight to unite the country.¹⁷⁵ After the temporary partition in 1954, the North was ruled by the communist Ho Chi Minh. The rule in the North was quite stable, except for a short period of time when the North implemented land reform, which caused serious rural unrest and obliged the government to start a "Campaign for the Rectification of Errors".¹⁷⁶ However, the communist party found little difficulties in adopting highly centralized control in a country where the people believed in Confucianism and, had a long feudal history.

¹⁷² Nguyen Vu Tung, in Lowe, p. 44.

¹⁷³ Townsend Hoopes, 'Appendix B: Memo from Townsend Hoops to Clark Clifford', in *Lyndon Johnson's War: The Road to Stalemate in Vietnam*, Larry Berman, New York: W.W. Norton & Company, 1989, pp.226-227.

¹⁷⁴ Hoopes, in Berman, pp.227-228.

¹⁷⁵ McNamara, p. 151.

¹⁷⁶ Europe Aid Co-operation Office, *Guidebook for European Investors in Vietnam*, Luxembourg: Office for Official Publications of the European Communities, 2002, p. 20.

Before the founding of the NLF in December 1960, the insurgency movement in the South was largely controlled by Southern Communists themselves. In the late 1960s, the North realised that it would probably lose control of the Southern movement, if it continued its policy of requiring the Southern communists and other pro-unification parties to restrain themselves from military insurgency.¹⁷⁷ The formation of the NLF was significant in the Vietnam War not only by providing a mechanism for coordinating political and military activities, but also by meaning the North had changed its reluctance in supporting the South's uprising.

The political propaganda of the North and the NLF for winning domestic and international support was nationalism and neutrality of the South. At the Fifteenth Party Plenum in 1959, the North advocated a peaceful solution of Vietnam's reunification, through gradually transforming the situation.¹⁷⁸ The Founding Program of the NLF called for 'a [South] government of national and democratic union ... composed of representatives of all social classes, of all nationalities, of various political parties, of all religions.'¹⁷⁹ They believed that 'neutralism is the solution acceptable to all patriots, and would constitute an important step forward compared with the present disguised colonial regime,' and furthermore, it 'can gain a tremendous diplomatic advantage and put the United States at a huge disadvantage.'

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As what the North and the NLF had planned, the strong will to fight and the strategy of advocating neutrality created tremendous problems for the US. On the one hand, the strong will to fight was one of the major reasons that led to the protracted war. On the other hand, it threatened the fragile regime in the South. However, from what the Southern regime's experience in war, the main reasons for its failure was its domestic policy towards its people. After the Tet Offensive, with the intensity of the insurgency reduced; the Southern Government achieved a quick improvement in the security in the South.¹⁸¹ It appeared that ordinary citizens might not care too much about reunification or communism. What they wanted most was a more stable, safer, and

¹⁷⁷ Ngo Vinh Long, in Lowe, pp. 70-71.

¹⁷⁸ McNamara, p. 118.

¹⁷⁹ McNamara, p. 119.

¹⁸⁰ Ibid.

¹⁸¹ Ngo Vinh Long, in Lowe, pp. 79-80.

better life. The insurgency was mainly pushed forward by a small number of elite groups. Furthermore, some might fight for changing the Diem and Thieu Governments, but not for reunification. Thus, arguably, the element of political power was not the centre of gravity of the North and the NLF.

From a social perspective, the Vietnamese were mostly peasants and lived in the countryside. Since the war had gone on for many years, they were generally accustomed to wartime life and hardship. In terms of cultural and social values, the North's culture had a more Chinese orientation, while the South had been subject more to Khmer and Hindu influences.¹⁸² In Vietnamese history, the country was the victim of foreign invasions many times. The Chinese dominance led to strong suspicions against them after the Tenth Century. However, the Vietnamese themselves were also active expansionists, when they were stronger than their neighbours. Ironically, the US was a strong supporter of self-determination for the colonial countries, which was in line with Vietnamese hopes for independence. The Vietnamese were mostly motivated by nationalism, not communism. Furthermore, the US did not want to change the Vietnamese culture; they did not even want to change the communist rule in the North, or their religions. Thus the social element of power, though important, but not the critical obstacle the US had to overcome.

From a military perspective, the North's military forces had reached about 460,000 by March 1968, including 85,000 in the South. The total insurgent forces in the South, including the Northern regulars, Vietcong, administrative personnel, and special assault squads, were about 450,000 men.¹⁸³ The strength of the US and the South was about 700,000 at that time, of which, about 500,000 were Americans. The US and its allies were not only superior in numbers, but also enjoyed supreme firepower and mobility.

In order to deal with the insurgency, the US ground commander General Westmoreland adopted the so called 'attrition strategy'. The general assumed that by 'search and destroy tactics' the United States could inflict casualties upon North Vietnamese and NLF forces at such a rate that they would be unable or unwilling to

¹⁸² Gelb and Betts, p. 39.

¹⁸³ Hoopes, in Berman, p 224.

continue the war in the South.¹⁸⁴ However, this strategy was questioned and never achieved what the general hoped for, because the enemy, most of the time, managed to control his own casualties by determining the initiation of as much as 88% of all tactical engagements.¹⁸⁵ Even more important was that the US was unable to cut off the Ho Chi Minh Trail. The North could infiltrate enough men and war material to support its struggle in the South. The chain reaction was that the US tried to neutralize the increasing number of insurgents by increasing its own strength, which was seen by the North and NLF as escalation. So, the escalation kept growing, the intensity in the South increased, and the 'Cat and Mouse' game continued, bringing heavy casualties to both sides.

The failure of the attrition strategy did not mean the US had not killed large numbers of the enemy. The US won nearly all the battles and suffered fewer casualties than the enemy. The reason for the US's inability to weaken the insurgents in the South was the continuing infiltration through the Ho Chi Minh Trail. The importance of the Trail to the North in the war was expressed in their leaders' comment: 'This is one of our party's outstanding political and military successes... during the war, the Trung Son Road [Ho Chi Minh Trail] provided us with a strategic vantage ground from which to fight and defeat the enemy. Trung Son Road joins North and South and unites the country.'¹⁸⁶ If the US had been able to cut off the Trail and stop the infiltration, this could have seriously weakened the insurgency within a reasonable time. The Americans never ceased their efforts to try to stop this infiltration.

It seems that the US adopted two strategies to deal with the problem. One was to bomb the North's strategic targets. However, the effect of the bombing was too minimal to force the North leaders to capitulate. The first reason was that the bombing targets were highly restricted by President Johnson. The second reason was that the North, as an agricultural country had few important targets that had significant impact

¹⁸⁴ Robert S. McNamara, and others, *Argument without End: In Search of Answers to the Vietnam Tragedy*, New York: PublicAffairs, 1999, p. 316.

¹⁸⁵ Record Jeffrey, 'Vietnam in Retrospect: Could We Have Won?', *Parameters*, Winter 1996-1997, pp. 51-65. It was downloaded from the website of <http://www.proquest.com>, (15 May 2003) by the NZ Defence library.

¹⁸⁶ Darrel D. Whitcomb, 'Tonnage and Technology: Air Power on the Ho Chi Minh Trail', *Air Power History*, Spring 1997, pp. 4-17. It was downloaded from the website of <http://www.proquest.com>, (15 May 2003) by the NZ Defence library.

on the national life and the war effort. The third was that the people had been accustomed to war for many years, and were more ready to endure the hardship and danger caused by bombing. The last, but not the least, was that their war materials were mainly supplied by other countries. Even if all the factories in the North had been destroyed, the North could still have stood firmly so long as it had outside support. US Air Force Colonel Everest E. Riccioni also questioned the effectiveness of strategic bombing in breaking the will of enemy, because it had failed to break the will of the people of Britain, German, and Japan in World War Two.¹⁸⁷

Another strategy was to directly interdict the flow of men and supplies, and the Trail itself.¹⁸⁸ It also proved to be a very hard job for the US, because the Trail was built in the jungle and developed into a very complex communication network system. For the most of the time, the US had to use limited air power to attempt to interdict the flow, because the Trail was through Laos, a neutral state. In 1965 and again in 1967, the American and South Vietnamese military leaders advocated using regular forces to cut the Trail and build a fortified barrier against the North Vietnamese. But in both cases, President Johnson rejected the proposal.¹⁸⁹ In 1970 and 1971, President Nixon adopted a more aggressive strategy. He ordered ground attacks against the North and NLF targets in Cambodia and Laos to cut off the Trail. However, both operations ended with futile results, only causing international criticism and internal blame.¹⁹⁰ So, although the US realized the Trail was the key to its success in the South and spent a lot of effort on it, they failed to achieve a positive result. Vietnamese General Doan Chuong's comment may partly explain the reasons. He said:

We not only had trails on land, we also had a "sea trail." In addition to the East Truong Son Road [Ho Chi Minh], there was a West Truong Son Road, with numerous criss-cross pathways, like a labyrinth. So it would have been hard to cut it off completely. As you know the US applied various measures to block it: bombing, defoliating, sending in commandos, and setting up a fence called "McNamara's Line"... Still, the route remained open... We could not, and in fact did not, allow the Trail to be cut off.¹⁹¹

¹⁸⁷ Everest E. Riccioni, 'Strategic Bombing: Always a Myth', *Proceedings*, November 1996, p. 51.

¹⁸⁸ McNamara and others, 1999, p. 336.

¹⁸⁹ Darrel D. Whitcomb, 'Tonnage and Technology: Air Power on the Ho Chi Minh Trail', *Air Power History*, Spring 1997, pp. 4-17. It was downloaded from the website of <http://www.proquest.com>, (15 May 2003) by the NZ Defence library.

¹⁹⁰ Borer, pp.166-167.

¹⁹¹ McNamara and others, 1999, p. 416.

The continuous infiltration of men and material frustrated the US war efforts. The war became stalemated from the beginning. To make thing worse, a lower level of military stalemate induced both sides to put more effort in, in the hope to achieve an advantage, leading to an even greater, higher-level stalemate. Nevertheless, the stalemate in the Vietnam War was not the first for the US during the Cold War.¹⁹² From 1950 to 1953, the US had experienced one when fighting the Chinese and the North Koreans. In comparing the two wars, it is easy to find that they share one significant character in that they were limited in nature, with limited objectives, had limited use of force and a geographically limited operational area. The fundamental reason in both cases was that the US did not want the war become a general war between communist and capitalist countries. As Walter Scott Dillard pointed out, if there is superpower interest on both sides, the result may well be another stalemate.¹⁹³ The Vietnam War was no exception. It was the North's outside diplomatic support that frustrated the US's efforts.

North Vietnam was able to win diplomatic support from the two biggest communist countries: the Soviet Union and China. It seems that the diplomatic element of power generally played two decisive roles. The first was to constrain the US from using forces freely. Before the US involvement, in 1950, the Pentagon's Joint Strategic Survey Committee put forward the possible 'domino' logic:

- (1) Involvement of US forces against Viet Minh forces would be likely to lead to a war with Communist China;
- (2) A general war with Communist China would, in all probability, have to be taken as a prelude to global war;
- (3) Our major enemy in a global war would be the USSR;
- (4) Our primary theatre in the event of a global war would, in all probability, be Western Europe; and
- (5) The forces of the Western Powers are insufficient to wage war on the mainland of Asia and at the same time accomplish the pre-determined Allied objectives in Europe.¹⁹⁴

¹⁹² Walter Scott Dillard, *Sixty Days to Peace: Implementing the Paris Peace Accords Vietnam 1973*, Washington, DC: National Defence University, 1982, p. 2.

¹⁹³ Dillard, p. 2.

¹⁹⁴ Borer, p. 57.

The worry about this logic did not diminish after the US entered the war. Instead, it became even more prominent when President Johnson greatly escalated the war by attacking the North in 1964.¹⁹⁵ The more deeply the US was involved, the more Johnson worried about the Soviet and Chinese threats. In May 1964, he told National Security Adviser MacGeorge Bundy,

‘I’ll tell you the more that I stayed awake last night thinking of this thing, the more I think of it, I don’t know that in the hell – it looks to me like we’re getting into another Korea. It just worries the hell out of me. I don’t see what we can ever hope to get out of there with, once we’re committed. I believe that the Chinese communists are coming into it. I don’t think we can fight them ten thousand miles from home... I don’t think it’s worth fighting for and I don’t think we can get out. It’s just the biggest damned mess I ever saw.’¹⁹⁶

His concern did not wane during the war. In 1967, during his meeting with Democratic congressmen, he defended his position on the restraint put on the military by saying: ‘we don’t want to hit targets near China or targets in civilian areas or targets in ports... We do not want to get the Soviet Union and China into this war... We’d already hit two Russian ships in the Haiphong harbour, and feared that if we hit more, we’d get more trouble than we got gains.’¹⁹⁷

Among Johnson’s inner decision-making group, Secretary of Defense McNamara played a critical role in the formulation of the US policy in the Vietnam War. In 1966, he gave President Johnson a report, in which he said, ‘It is clear that, to bomb the North sufficiently to make a radical impact upon Hanoi’s political, economic and social structure, would require an effort which we could make but which would not be stomached either by our own people or by world opinion; and it would involve a serious risk of drawing us into open war with China.’¹⁹⁸

McNamara’s successor, Clark Clifford was thought to be much more hawkish. However, after taking office, the Secretary adjusted his original hawkish view. When

¹⁹⁵ Qiang Zhai, *China and the Vietnam Wars 1950-1975*, Chapel Hill: The University of North Carolina Press, 2000, p. 132.

¹⁹⁶ McNamara, p. 155.

¹⁹⁷ Larry Berman, *Lyndon Johnson’s War: The Road to Stalemate in Vietnam*, New York: W.W. Norton & Company, 1989, p. 71.

¹⁹⁸ Berman, p. 15.

the Joint Chiefs expected him to support their more ambitious bombing program against the North, he questioned the military plan and explained why the President set up three restrictions.

The President had forbidden the invasion of North Vietnam because this could trigger the mutual assistance pact between North Vietnam and China; the President had forbidden the mining of the harbour at Haihong, the principal port through which the North received military supplies [from the Soviet], because a Soviet vessel might be sunk; the President had forbidden our forces to pursue the enemy into Laos and Cambodia, for to do so would spread the war, politically and geographically... These and other restrictions, which precluded an all-out, no-holds-barred military effort were wisely designed to prevent our being drawn into a larger war.¹⁹⁹

Apart from the restrictions on military operations, which were blamed for the failure, the Johnson Administration was also accused of refusing to arouse popular support for the war, thus making a compelling strategic case for mobilization of reserve and massive US intervention.²⁰⁰ This was partly because Johnson hoped to continue his social reforms at home and keep public support behind him.²⁰¹ However, the major consideration probably was still the Chinese and Soviet threat. McNamara believed that the call-up of the Reserves was a threshold. Once this threshold was crossed, 'there would be irresistible pressures for ground actions against sanctuaries in Cambodia and Laos; for intensification of the air campaign against North Vietnam and ultimately for the invasion of North Vietnam. These actions might then cause the Soviet Union and Red China to apply military pressure against the United States in other parts of the world, such as in Korea or Western Europe.'²⁰² Clifford shared a similar concern, though adopting a different approach. Based on the belief that political restriction had to be kept, his logic of mobilizing reserve just meant more troops, more guns, more planes, more ships, and more casualties, but without an end.²⁰³ Some high ranking military officers also saw the need for restriction. General Bruce Palmer pointed out: "one cannot quarrel with the decision not to invade North Vietnam because it was too close to China; our experience in misjudging the Chinese

¹⁹⁹ Berman, p.178.

²⁰⁰ Robert D. Schulzinger, *American Diplomacy in the Twentieth Century*, New York: Oxford University Press, 1994, pp. 281-282.

²⁰¹ David L. Anderson, 'The United States and Vietnam', in Lowe, 1998, p. 105.

²⁰² Berman, p. 44.

²⁰³ Berman, p. 180.

intervention in Korea was still fresh in our memory.”²⁰⁴ Several times when the US escalated the war, they tried to inform the Chinese in advance to avoid possible misunderstandings.²⁰⁵ Arguably, the US concerns and restriction could be justified, as the threat of China’s intervention was real.

The Soviet policy toward Vietnam was largely decided by its position in the communist world and its relatively weak strength against the US. As the leader of the communist countries, it had to support the revolution in Vietnam. However, its weak strength determined that it was wise to avoid a direct conflict with the US, especially in Indochina, a place far away from its immediate area of interest. In the 1954 Geneva Conference, the Soviets had joined hands with China to persuade the reluctant Viet Minh to agree to the partition of Vietnam at the 17th parallel for a temporary peace, because it was probably the most reasonable way to prevent the US from intervening directly and so further reduce the risk of confrontation.²⁰⁶ Furthermore, as the new Soviet leader Khrushchev intended to achieve détente with the West, ‘the conflict in Indochina was regarded as capable, if not of undermining, at least of hindering the process.’²⁰⁷ Thus the Soviets would have liked to adopt a Korean style and delegate the primary responsibility to China, even though the two had split in the early 1960s. It seems that as long as China committed to the conflict, though China might have some influence on its leadership in the communist world, the Soviets were still relatively happy to see the US drained economically and politically by the protracted war.²⁰⁸

China’s policy toward Vietnam was also connected with its understanding of its national interests in Indochina. According to Dr. John W. Garver, China had two objectives in supporting Hanoi: to roll back US containment and keep the US forces away from its border, and to prove the correctness of Mao’s more militant strategy for dealing with US imperialism and the incorrectness of Khrushchev’s détente towards

²⁰⁴ John W. Graver, ‘The Chinese Threat in the Vietnam War’, *Parameters*, Spring 1992, p. 73.

²⁰⁵ Pentagon Papers, ‘A Chronology of Major Developments in the Air War against North Vietnam, 1965-1968’ in *The Lost Peace: America’s Search for a Negotiated Settlement of the Vietnam War*, Allan E. Goodman, California: Hoover Institution Press, 1978, p. 275.

²⁰⁶ John Lewis Gaddis, *We Now Know: Rethinking Cold War History*, New York: Oxford University Press, 1997, pp.162-163.

²⁰⁷ Ilya V. Gaiduk, ‘The Soviet Union and Vietnam, 1954-75’, in Lowe, 1998, p. 134.

²⁰⁸ Borer, p. 171.

the West.²⁰⁹ These perceived interests led China to invest greater efforts in the conflict.

In July 1962, China played a critical role in making the US accept an agreement regarding the neutrality of Laos, forcing the US and the South East Asian Treaty Organization's protective power to withdraw from Laos.²¹⁰ As already proved by history, a neutral Laos allowed the North to build the Ho Chi Minh Trail through Pathet Lao-control areas of the Laotian panhandle.²¹¹ In May 1963, Chinese President Liu Shaoqi promised Hanoi, during a visit, that if the war expanded as a result of their efforts to liberate the South, they could definitely count on China as the strategic rear.²¹² In June 1964, Mao Zedong told the Vietnamese delegation that Vietnam's cause was also China's, and China would offer unconditional support.²¹³ In October the same year, China exploded its first nuclear device and became a nuclear power, greatly increasing its capability to deter war; President Johnson called it the unluckiest moment for the world.²¹⁴ In March 1965, the US launched Operation Rolling Thunder against the targets in the North.²¹⁵ On 2 April, Premier Zhou Enlai asked Pakistan's President Mohammad Ayub Khan to convey an even stronger message to the US that China would not initiate a war with the United States, but China would definitely offer all manner of support to the Vietnamese; even though the United States might use nuclear weapons against China.²¹⁶

China's second decisive role was providing the North with necessities to fight a protracted war. Nearly all the North's jet combat aircraft, tanks, and anti-air missiles came from the Soviet Union. Some of the weapon systems were high technology. China provided over \$20 billion in support to Vietnam from 1950 to 1978. This

²⁰⁹ John W. Garver, 'The Chinese Threat in the Vietnam War', *Parameters*, Spring 1992, p. 75.

²¹⁰ Zhang Xiaoming, 'China's Involvement in Laos During the Vietnam War, 1963-1975', *Military History*, October 2002, p. 1145.

²¹¹ Garver, p. 76.

²¹² Zhu Tinchang, Song Dexin and Wang weiming, *China's Security Environment and Security Strategy*, Beijing, Shishi Press, 2002, pp. 93-94. (Chinese version)

²¹³ Chen in Lowe, p. 164.

²¹⁴ Zhu and others, p. 96.

²¹⁵ Pentagon Papers, in *The Lost Peace: America's Search for a Negotiated Settlement of the Vietnam War*, Allan E. Goodman, California: Hoover Institution Press, 1978, p. 276.

²¹⁶ Chen in Lowe, p. 168.

included weapons, ammunition, and supplies sufficient to equip two million soldiers.²¹⁷

Compared with material and diplomatic support, military support was kept at a lower profile to avoid direct conflict with the US. Nevertheless, the effects on the war were also profound. As the situation deteriorated in early 1965, three North Vietnamese delegations went to Beijing for Chinese military support, headed by Le Duan²¹⁸ and Vo Nguyen Giap,²¹⁹ Ho Chi Minh, and Van Tien Dung respectively. At the request of the North, Chinese Chief of General Staff, Luo Ruiqing finalized the guiding principles and concrete details of China's support to Vietnam under different circumstances.²²⁰

Following the agreement, from 1965 to 1969, China sent seven divisions of engineering units to Vietnam to help the North build roads, bridges, and defence works. It sent 16 divisions of anti-aircraft artillery units to defend strategically important targets such as critical railway bridges on the Hanoi-Youyiguan and Hanoi-lao Cai lines, and to cover Chinese engineering troops.²²¹ The total strength was about 320,000, with the annual maximum reaching 170,000.²²² This direct support on the one hand served as a deterrent to the US expanding the war, on the other hand, it released large numbers of Northern personnel from these supporting works, so that they could be used in the construction of the Ho Chi Minh Trail, as proposed by the Northern leaders. The indirect support included allowing the North Vietnamese Air Force to operate from bases in south China, providing intelligence, mobilizing and moving troops to the border with Vietnam, and initiating the Third Front Program to adjust the distribution of military industries.²²³

Based on the above discussion, it is clear that although the Vietnam War was mainly conducted by the North itself, the support from the Soviet Union and China was nonetheless the decisive factor that caused the American failure. Generally speaking,

²¹⁷ Garver, p. 76.

²¹⁸ A person who is in charge of the war against the US.

²¹⁹ The most important North General in the war.

²²⁰ Chen in Lowe, p. 169.

²²¹ Chen in Lowe, pp. 170-173.

²²² Garver, in *Parameters*, p.77.

²²³ Garver, in *Parameters*, pp. 77-80.

the support largely restrained the US from escalating the war, strengthened the North's will to fight, and provided nearly all the war resources to continue the war. However, it is hard to judge which was more important, the Soviet or China's support? It seems that China's support and deterrent were more direct and real. However, the US might care more deeply about the Soviets than China because of its military capabilities, especially nuclear capability. If China alone had supported the North, the US might not have been so constrained. Thus, the reasonable judgement was that China's resolution and huge human resources, which had already been proved to be beyond what the US's superior firepower and air supremacy could defeat in the Korean War, and the Soviet nuclear capability, were now combined to form the hardest barrier for the US. What had the US done before 1968 to neutralize this obstacle to achieve its objective? Arguably, very little.

From 1956 to 1968, the US effort seemed to focus on two areas: supporting the South against the ground insurgency and conducting an air war against the North to force it to stop supporting the war in the South. Because of the ideological struggle between the East and West, any détente with the communists would likely be seen as 'soft hand' and lose domestic support. The theme set by President Truman was automatically taken over by the following Presidents, whether from the Democratic or Republican parties. In this 'Zero Sum' game, there was no other way to deal with the communist threat, but fighting and containment. The ironical thing was that the US considered the conflict in Indochina part of the aggression of the world communist movement; but when it came to deal with it, its eyesight was mainly focussed within Vietnam, neglecting the decisive forces outside of the border.²²⁴

Pragmatically speaking, during the Cold War time, an attack on this centre of gravity was very difficult. If one side intended to use this kind of conflict to drain its opponent, the conflict usually became a protracted nightmare for the power involved, as was shown again in the Afghanistan war of the 1980s. To make things complicated, the rift of the two main communist countries, the Soviet Union and China (the North's principle supporters) at that time did not weaken their support for Hanoi. In fact, in order to pull the North to their own side, they provided even more support to show

²²⁴ Allan E. Goodman, *The Lost Peace: America's Search for a Negotiated Settlement of the Vietnam War*, California: Hoover Institution Press, 1978, pp. 1-6.

their value.²²⁵ However, in this case, the US still had the possibility, though very small, of getting the Soviet Union and China to pressure the North to accept political settlement.

The most fundamental factor that the US could have used was that both China and the Soviet Union did not want direct conflict with the US. The Soviet Union might have had no plan to intervene in the conflict or to create some problems in other parts of world for the Vietnamese sake.²²⁶ They favoured the policy of a peaceful settlement of the conflict and tried to persuade the North and the US to agree to negotiations from the very beginning of the war.²²⁷ China really did not want a war with the US as well. The Korean experience kept reminding China how hard it was to fight a war with the US and how much it would suffer if it engaged in another one. The strong warning messages served the purpose to avoid a war, not to initiate a war.

Furthermore, the three sides probably had common ground to negotiate a settlement, for a divided Vietnam was acceptable to them, as in the case of Korea. For the US, it could achieve its objective to keep the South and stop the communist expansion. For China, they could get a buffer zone against the US and for the Soviet they could prove the correctness of their foreign policy, which advocated détente with the West, although this was criticized by China as ‘revisionism’ to communism.²²⁸ There were some signs for the compromise. In 1954, the Soviet Union and China pushed the North to accept the temporary partition of Vietnam. In 1956, when the Southern regime openly refused the elections, the Soviet Union gave only vocal support, but took no practical steps. In 1957, the Soviets even made a proposal in the United Nations to formally recognized both the North and South as two separate countries.²²⁹ In 1962, the Soviet Union and China jointly initiated the neutralization of Laos, despite their rift. From 1965-66, the Chinese and US secretly exchanged messages through their embassies in Poland. And it was widely believed that by November 1965 China and the US had reached a tacit understanding that, as long as US forces

²²⁵ Gaiduk, in Lowe, pp. 143-144.

²²⁶ Peter Lowe, ‘Introduction’ in Lowe, 1998, p. 6.

²²⁷ Gaiduk, in Lowe, p. 146.

²²⁸ Robert V. Daniels, *Russia: The Roots of Confrontation*, Cambridge: Harvard University Press, 1985, pp. 254-255.

²²⁹ Borer, p.115.

did not invade North or attack China, China would not directly enter the war.²³⁰ The Chinese refused discussions with the Soviets and the North Vietnamese on joint action of support in March 1965.²³¹ It seems that in seeking national interests, this was no exception for China and the Soviet Union. As long as their interests were assured, they were prepared to strike a balanced deal, even at the expense of the Vietnamese. This tendency to compromise was the critical vulnerability for the North. However, it was merged within the mist of ideological struggle. It should be pointed out that after the Tet Offensive, the US began to think about a negotiated settlement with the help of the Soviets and China.²³² However, it was not until the Nixon Administration, that the North's centre of gravity was finally open to attack.

At the end of the 1960s, the international situation began to undergo fundamental changes. The Soviet Union was catching up with the US in military area, by taking the advantage of the US war against Vietnam.²³³ The relationship between China and the Soviet Union was quickly deteriorating, and in 1969 the two sides engaged in a military border conflict. The Chinese leaders now saw that the threat from the Soviets was more serious than that from the US. As Henry Kissinger pointed out, 'It was obvious to China that Marxist theory not only did not shield it from Soviet military pressures but provided a pretext for them. For the newly promulgated Brezhnev Doctrine claimed for the Kremlin the special right to use military power within the Communist world to enforce its unit.'²³⁴

For the United States, the opportunity to end the war was merging with necessity. When President Nixon took power, he began to adjust the US foreign policy. Unlike his predecessors, Nixon and Kissinger believed that Vietnam was not absolutely vital to US interests; US should focus effort on its most dangerous enemy, the Soviet Union. Therefore, the US had to end the war, but with honour to preserve its credibility and respect. This meant that the US's objective in the Vietnam War had to

²³⁰ Garver, in *Parameters*, p. 78.

²³¹ Gareth Porter, 'Vietnamese Policy and the Indochina Crisis', in *The Third Indochina Conflict*, David W. P. Elliott (ed.), Colorado: Westview Press, 1981, p. 73.

²³² Walt Rostow, 'Memo from Walt Rostow to the President, March 19, 1970', in Berman, 1989, p. 238.

²³³ Zhu and others, p. 98.

²³⁴ Henry Kissinger, *Does America Need a Foreign Policy*, London: Simon & Schuster, Inc., 2001, p. 138.

change from keeping the South to one of honourable withdrawal, though on the surface Nixon still stated his objective in almost precisely the same words as his predecessors: 'We seek the opportunity for the South Vietnamese people to determine their own political future without outside interference.'²³⁵

Based on the assumption that if the North lost their major backers they would make peace on America's terms, and also to balance the influence of the Soviet Union, Nixon and Kissinger made a dramatic move in American foreign policy, to normalize relationship with communist China. Due to the need of both sides, Nixon finally made a historical and unbelievable visit to China in February 1972.²³⁶ The objective of this move was that: 'to balance the Soviet Union – either to restrain it or to induce it to negotiate seriously; to isolate Hanoi and thereby spur an end to the Vietnam War; to maintain America's self-confidence amidst the painful withdrawal from Indochina; and, finally, to demonstrate America's undiminished capacity to master an international environment that was turning multipolar.'²³⁷ This rapprochement arguably created a cascading impact on world politics, allowing the US to enjoy a more favourable position in its global competition with the Soviets. On the one hand, China would be more reasonable in understanding the US efforts to end the war in Vietnam and did not see the escalation of bombing as a danger to itself. On the other hand, the rapprochement of the US and China meant the Soviets had to counter the pull of Beijing by adopting a more flexible policy towards Washington, letting the world see the early 1970s as a period of détente between the two superpowers.²³⁸ In the spring of 1972, just before Nixon flew to Moscow to sign the Strategic Arms Limitations Agreement (SALT I), Nixon ordered Operation Linebacker to attack Haiphong and Hanoi, partly in response to Hanoi's offensive and partly in an attempt to test the Soviet attitude towards the escalation. If the Soviets offered no formal protest and did not cancel his proposed visit, it probably meant that the Soviets wanted an accommodation with the US despite their relationship with the North. The Soviet reaction proved Nixon's judgement and decision were right.²³⁹ The removal of

²³⁵ Gelb and Betts, pp. 348-349.

²³⁶ Schulzinger, pp. 296-297.

²³⁷ Kissinger, 2001, p. 140.

²³⁸ Lawrence Freedman, 'The First Two Generations of Nuclear Strategists', in *Makers of Modern Strategy*, Peter Paret, Princeton: Princeton University Press, 1986, p. 772.

²³⁹ Kenneth P. Werrell, 'Air War Victorious: The Gulf War vs. Vietnam', *Parameters*, Summer 1992, p. 45.

the possible threat of Chinese and Soviet direct intervention largely freed American hands for extraction from the war. It meant that the most critical obstacle for the US to achieve honourable withdrawal was now not the threats from China and the Soviet Union, but the North's national will to fight.

Concerning the effects of the diplomatic moves, some persons such as Anderson have argued that Nixon's hope that Moscow and Beijing would urge Hanoi to compromise were not realized.²⁴⁰ It was probably true that there was no immediate well-proven effect on Hanoi's fighting will, by pressure from the Soviet Union and China. But to weaken the North's will to fight might not be necessary, if the main goal was diplomatic action. The significance of these diplomatic moves was the sharp reduction of the Soviet and China support to North, and the creation of a more suitable environment for the next stage of the war. The intangible aftermath for the North was profound. Without the pressure from the Soviet Union and China to restrain the US's bombing, the North knew the US would expand the bombing to whatever extent they believed to be suitable. However, it took time for the US to overcome Hanoi's will to fight.

The North's will to fight was very strong. First, they had been fighting for their national independence since the end of World War II. If the pressure was not high enough, they would not give up the fight. Second, although the Soviets and Chinese had reduced their support to the North, that did not mean the two countries would like to push the North very hard. On the one hand, it might appear to the outside world that they were not genuine in helping communist friends. On the other hand, they might like to see the US in trouble for a longer time. Thirdly, ironically, the US's strategy and domestic political situation might further strengthen the North's fighting will. After the Tet Offensive, the US domestic situation was further deteriorating.²⁴¹ It seemed clear to the North, as long as they kept the war going; the US would have to withdraw. The Nixon Administration's unilateral announcement of withdrawal before reaching any agreement with the North might further strengthen the North's belief that time would defeat the US. The longer the North held out, the more it would be likely to achieve its aim of unification.

²⁴⁰ Anderson, p. 112.

²⁴¹ Schulzinger, pp. 285-287

In spite of the passive position towards the North created by the protracted war, domestic problems, and the North's strong will to fight, the US arguably had done a much better job in the final stage of war. All efforts were focussed on the North's centre of gravity, the national will to fight. Just as Professor Goodman pointed out, 'it was the first time in the entire war that our use of force against Hanoi and our diplomacy with the Soviets and the Chinese were coordinated solely for the effect on the negotiations.'²⁴²

The US centre of gravity in the War

As to the US centre of gravity in the war, it is commonly believed this was American public support, because it was the anti war movement at home that finally led to the US failure in Vietnam.²⁴³ It might be true that domestic support played a very important role in the US withdrawal from Vietnam. However, was it the centre of gravity to the North and NLF? Was this the main barrier for them to achieve their objective, namely the withdrawal of foreign troops and final reunification of the North and the South? Furthermore, public support was only one of the components of the political element of power, the US will to fight, but this was also decided by some other factors, such as the government policy and partisan political competition.

It seemed clear to the North and NLF that the social, economic, and diplomatic elements of power were not the US's centre of gravity. From the social perspective, the North was no direct threat to American's social values and ideology; they had no desire or capability to change them. The irony was that the North was fighting for national freedom; the pursuit of which was in line with core American values, the belief of freedom, self-determination, and democracy. Arguably this was part of the motivation of the anti war movement. On the contrary, the North's war for unification was thought to be the expansion of communism, because the North was under the control of the Communist Party and a unified Vietnam, if the North succeeded, would form a threat to the free world and democracy. Such logic, produced strong support

²⁴² Allan E. Goodman, *The Lost Peace: America's Search for a Negotiated Settlement of the Vietnam War*, California: Hoover Institution Press, 1978, p. 120.

²⁴³ Mike McGlothlin, 'No Another Vietnam', <http://www.spectacle.org/0102/mglothlin.html>, (March 2003).

for the war against the North. However, as the war dragged on, this support gradually weakened.

Economically, the strong US economy allowed the US government to invest large sums of money in the war effort. In 1965 alone, the war spending was about \$20 billion.²⁴⁴ But spending was constrained by the limited nature of the war. The war in Vietnam was thousands of miles away from the US continent and posed no threat to America's existence. Therefore it would be unacceptable for the American people, if the Government spent too much on the war. In the last years of the war, the increased war expenditure began to conflict with the domestic needs. In March 1968, Townsend Hoopes wrote a report to the Secretary of Defense Clark Clifford about the possible strategic choices in response to the Tet Offensive. He estimated that the commitment of 1.5 million men would probably raise the US cost to about \$85-90 billion per year. It was difficult to believe that the American people would accept such a burden or such a risk. As a result, disaffection would be rampant and very deep.²⁴⁵ So, although the US economy was large and strong, the limited nature of the war largely reduced its potential effectiveness in supporting the war. To the North this element of power was not as urgent and important as the US national will and military power.

In terms of the American diplomatic element of power, this was the weak part of the US equation in this particular case. The support the US could get from its Western allies for the war was minimal, because most of them had no stomach for the Indochina intervention. Early in 1954 when French troops were surrounded by Viet Minh in Dien Bien Phu, the US called for a united action to save the situation. President Eisenhower even sent a personal message to Prime Minister Winston Churchill for British cooperation. But Churchill told the House of Commons that Britain would not send any troops to Indochina.²⁴⁶ During the war, no other major Western countries sent troops to help Americans; even though the war was thought to contain the expansion of communists, thinking that the conflict might cause a war with China or the Soviets and the reduction of US support to Western countries.²⁴⁷

²⁴⁴ Anderson, in Lowe, p. 105.

²⁴⁵ Hoopes, in Berman, p. 228.

²⁴⁶ Gelb and Betts, pp. 58-59.

²⁴⁷ Alastair Parker, 'International Aspects of the Vietnam War', in Lowe, 1998, p. 197.

When facing a House of Commons' inquiry, British Prime Minister Wilson even denied that British arms had been sold to Australia or the US for the Vietnam War.²⁴⁸

The South Vietnamese Government was the most important and faithful ally of the US in this war, which was fought for preventing the South from falling to the hand of the communist North. However, due to severe corruption and wrong policy, the South Vietnamese Government failed to rally the South Vietnamese to its cause and give them a will to fight. Although the US provided the South with massive economic support and helped the South to build its armed forces, the South Vietnamese troops were generally low in combat capabilities, and hardly reached the expectation of the US. In the war, the South was one of the critical vulnerabilities of the US.

The military element of power was the critical capability of the US. The US's intervention into the conflict largely depended on its supreme military power. However, in this scenario, the US's advantage was compromised by political and military limitations.²⁴⁹ Furthermore, the North adopted a strategy, which caused the United States to deploy against a secondary force [the Vietcong] and exhausted itself in the effort. The North might have been satisfied with a stalemate of the military situation. On the one hand, it did not have the ability to defeat the US troops on the battlefield. On the other hand, even if the North could defeat the US troops deployed in the South, the US Government might send still more troops to fight, if they thought it was necessary to do so. Thus, the military element of power was not the centre of gravity of the US.

The real centre of gravity of the US in the war was its political element of power, the national will to fight. At the beginning of the war, the US national will to intervene, motivated by the belief of the need to fight communism, was strong. However, the national will to fight was decided by a number of factors, including the US Government's will to fight, the Government's ability to mobilize or control public opinion, the Congress's support for the war, and public support for the government or war. For most of the time, it seems that it was the Government's will that decided the continuation of war.

²⁴⁸ Parker, in Lowe, 1998, p. 200.

²⁴⁹ Beatrice Heuser, *Reading Clausewitz*, London: Pimlico, 2002, p. 174.

The American public support for the war was very complicated. Although the public support and zeal gradually declined during the war, the majority of American citizen showed their support for the Government's efforts to win or end the war. The situation in 1968 was probably the most difficult one during the war. However, a public survey in November 1968 showed that public support was still very high. Those supporting the extremes of complete military victory and immediate withdrawal were both low, while the most common preference was a centrist one — continuation of the war, neither escalating nor withdrawing, until peace and an orderly withdrawal could be negotiated.²⁵⁰

The public anti-war movement started in 1963 and began showing its importance from 1965.²⁵¹ It reached its highest point at the beginning of the Nixon administration and gradually declined between 1971 and 1975. The motivation of the movement was very complex. B. T. Harrison argued that the opposition was rooted mainly in the two World Wars and the Great Depression.²⁵² He reasoned that the main body of anti-war movement were those youth who were born during the Baby Boom period, when the US was at its most affluent age. The wars and depression spawned a “beat generation” refusing to conform to the mainstream American values. Thus the anti-war movement became part of a protest against traditional American values and attitudes.

Another reason was the civil rights issue in the US. Before the anti-war movement, there was already a tide of the civil rights, movement. Later, many activists turned to the anti-war movement, because some of the issues in the war, such as equal rights of employment for black Americans, and human rights violations through war crimes and massacres, were connected with civil rights. The most famous civil right leader, Dr. Martin Luther King Jr. became an influential anti-war activist. In 1968, he even planned a Poor Peoples' Campaign, arguing that the colossal cost of eradicating

²⁵⁰ Eric V. Larson, 'Polarization over Commitment', Chapter Three of *Casualties and Consensus: The Historical Role of Casualties in Domestic Support for U.S. Military Operations*, <http://www.rand.org/publications/MR/MR726/MR726.chap3.pdf>, (23 March, 2003), p. 63.

²⁵¹ Tom Wells, 'The Anti-Vietnam war Movement in the United States', in Lowe, 1998, pp. 115-116.

²⁵² Benjamin T. Harrison, 'Roots of the Anti-Vietnam War Movement', *Studies in Conflict and Terrorism*, Vol. 16 1993, p. 100.

poverty would make current military expenditures impossible to sustain, thus leading to an American withdrawal.²⁵³

Apart from the above reasons, the fact that the US Government failed to rally the public around the commitment in Vietnam also led to the growth of the largest and most effective anti-war movement in American history.²⁵⁴ Johnson failed in his promise of a Great Society made in his inauguration speech, and this further destroyed public confidence in him. In October 1967, Johnson said bitterly, 'This is not Johnson's War. This is American's war. If I drop dead tomorrow, this war will still be with you.'²⁵⁵

The American Congressmen's support for the war was usually connected with partisan competition and interests. During the Korean War, it began with strong bipartisan support from congressional leaders, but fell prey to partisan criticism after the Chinese entry into the war. In the Vietnam War, the pattern was nearly the same, with the highest consensus for the approval of the Gulf of Tonkin Resolution. This consensus was broken down by the Fulbright hearings in early 1966, which had been highly critical of the war and had featured establishment stalwarts criticizing the war, thus making dissent respectable.²⁵⁶ As the war continued without an end in sight, Congressmen began to question if there was something wrong with the US war in Vietnam. Some members of foreign policy establishment, such as George Kennan, the father of containment; and the 'realist' professor of international relations Hans J. Morgenthau also doubted the wisdom of the decision to divert precious resources from Europe to Southeast Asia.²⁵⁷ By the Tet Offensive in early 1968, vocal congressional opposition to the war was both common and widely reported by the media. However, one important difference between the Korean and Vietnam wars was that the most visible leadership opposition to Vietnam came from within the

²⁵³ Benjamin T. Harrison, 'Impact of the Vietnam War on the Civil Rights Movement in the Midsixties', *Studies in Conflict & Terrorism*, Vol. 19, 1996, p. 274.

²⁵⁴ Claudia Springer, 'Military Propaganda: Defense Department Films from World War II and Vietnam', in *The Vietnam War and American Culture*, John Carlos Rowe, Rick Berg (ed.), New York: Columbia University Press, 1986, pp. 95-97.

²⁵⁵ Berman, on front cover.

²⁵⁶ Eric V. Larson, 'Leadership Consensus and Dissensus', Chapter Four of *Casualties and Consensus: The Historical Role of Casualties in Domestic Support for U.S. Military Operations*, p. 86. <http://www.rand.org/publications/MR/MR726/MR726.chap4.pdf>, (24 May 2003).

²⁵⁷ Schulzinger, p. 279.

Democratic president's own party,²⁵⁸ because of the competition for the nomination of a Democratic candidate for the 1968 presidential election. The good news Johnson got from US Ambassador Bunker in the South to support himself before the Tet Offensive proved to be false.²⁵⁹ The Congressional action came to its highest point when it legislated a ban on all future American military re-involvement in Indochina, which finally eliminated the US Government's hope of being able to bomb the North if it threatened the South.²⁶⁰

The Government's will to fight was relatively high throughout of the war. One of the most important reasons was political motivation. From the 1950s to the 1968 US presidential election, all the candidates running for President had to show their strong position against communism. Kennedy defeated Nixon and Johnson defeated Goldwater not because of their differences in anti-communism, but the way they intended to deal with it, showing that the political wind was strongly anti-communist oriented in US domestic life. During the 1964 election, in order to counterattack Republican candidate Goldwater's accusation of being meek in the conflict, President Johnson took the opportunity of the Tonkin Gulf crisis to order air strikes against the North and put forward the Gulf of Tonkin Resolution to provide a legal basis for war against North Vietnam. The Resolution passed the House without a single no vote, without hearings and with only an hour of debate.²⁶¹ Following the air strike and resolution, public opinion polls showed that Johnson's popularity was shooting up. And finally Johnson overwhelmed Goldwater with 60 percent of the vote.²⁶²

Before the Tet Offensive, although popular protest had reached a significant scale, most Government officials remained loyal to the cause.²⁶³ More and more American troops were sent to Vietnam. Even after the Tet Offensive, Johnson still wanted to make a national war speech, though he decided not to at the last moment.²⁶⁴ After Nixon took office, he tried to finish the war by Vietnamizing the War. In order to gain

²⁵⁸ Larson, p. 87.

²⁵⁹ Wallace J. Thies, 'How We (Almost) Won in Vietnam: Ellsworth Bunker's Report to the President', *Parameters*, Summer 1992, p. 89.

²⁶⁰ Gelb and Betts, pp. 350-351.

²⁶¹ Schulzinger, p. 257.

²⁶² *Ibid.*

²⁶³ Noam Chomsky, 'Visions of Righteousness', in Rowe, Berg, 1986, p. 34.

²⁶⁴ Berman, p. 200.

a favourable position in negotiation, Nixon appeared more aggressively than Johnson. He escalated the war, ordering the secret bombing of Cambodia in 1969, a ground invasion of Laos in 1971, and much intensified air operations: Linebacker and Linebacker II. Even after the Paris Agreement, Nixon and Kissinger still wanted to hold open the option of bombing North Vietnam once again.²⁶⁵

Another reason might be the need for the Government at national level to pursue the largest national interests. What the anti-war activists advocated might be correct, but this was not necessarily good for the nation as a whole. Furthermore, the anti-war activists were only small part of Americans and the Government's decision had to be a balanced consideration. So, in the Vietnam War, the US's will to fight was the result of interaction between the Government, the Congress, and public. It seems that it was the public anti-war movement that led to the collapse of the bipartisan Cold War consensus that had held since 1947, opening the Pandora's box. However, the anti-war movement's impact was limited sometimes. The Government was able to adjust its policy to compromise the movement. For example, in November 1969, a week before large-scale demonstration against the bombing of Cambodia, Nixon announced the withdrawal of an additional seventy-five thousand troops. However, when Nixon saw the low effectiveness of the bombing, he ordered American and South Vietnam troops to launch a ground invasion of Cambodia, neglecting a possibly even stronger reaction than that which the bombing had caused.²⁶⁶

In contrast with the US's messy strategies in the war, the North and the NLF's strategy appeared to be clear: to win by fighting a protracted war. However, it did not mean their strategic efforts were always focussed on the centre of gravity. From 1965, the US escalation of the war, to the 1968 Tet Offensive, the North and NLF's war efforts were focussed on the attempt to defeat the US troops in Vietnam and win a military victory. It could be said that the North and NLF's efforts were aimed at the wrong place. However, the protracted war strategy in fact did wear down the US' will to fight, if unexpectedly. Hanoi's judgement was that: the Vietnamese people were stronger both politically and militarily than the US, because the US's war effort was limited and the Vietnamese people would fight a life-and-death war. Vietnamese

²⁶⁵ Gelb and Betts, pp. 350-351.

²⁶⁶ Schulzinger, pp. 293-294.

Workers Party (VWP) General Secretary Le Duan stated, 'The revolutionary forces in the south, actively supported by the north, can and must defeat the US.'²⁶⁷ The Tet Offensive was a strategic military mistake, but a great political success. In February 1967, Le Duan issued a directive, 'The immediate tasks now are to quickly build up our force and be ready for the moment of General Offensive – General Uprisings.' In December 1967, the VWP adopted a resolution, which concluded, 'we are facing a great strategic prospect and opportunity: the US is in a state of strategic deadlock ... the situation allows us to shift our revolution into a new stage, that of decisive victory through a general offensive and General Uprising.'²⁶⁸ It was clear this operation was premature and against the principles of protracted war,²⁶⁹ as the result of the operation showed. However, the operation achieved a significant effect the North had not anticipated.

The psychological impact of the Tet Offensive on the US was huge, causing a political earthquake in American life. Arguably, it was from this time that the North began to focus its efforts on the US's centre of gravity, the national will to fight.²⁷⁰ After the Tet Offensive, the North and the NLF launched several other militarily offensives, all of which were doomed to fail. It could be considered that they did these on purpose to further worsen the US domestic situation. The situation was clear for the North, that as long as they kept themselves undefeated, the US would be defeated by itself. In the following five years, the North kept negotiating, fighting, and waiting, until the US's will was not strong enough to continue the war.

The final agreement between the North and the US was reached in early 1973, thus ending the US's war effort in Vietnam. It is estimated that about 3.8 million Vietnamese were killed and 58,000 Americans lost their lives. Ironically, each side could claim that they had achieved their principle objectives: the Northern communists reunified the country under their leadership; and the United States stopped the spread of communism to other Southeast Asian countries.²⁷¹ However, the

²⁶⁷ Nguyen Vu Tung, in Lowe, p. 42.

²⁶⁸ Nguyen Vu Tung, in Lowe, pp. 46-47.

²⁶⁹ Mao Zedong, 'On Protracted War', http://www.maoism.org/msw/vol2/mswv2_09.htm, (25 May 2003).

²⁷⁰ Nguyen Vu Tung, in Lowe, p. 51.

²⁷¹ McNamara and others, p. 1.

result of the war might have been different if the US had identified its enemy's centre of gravity at an earlier time.

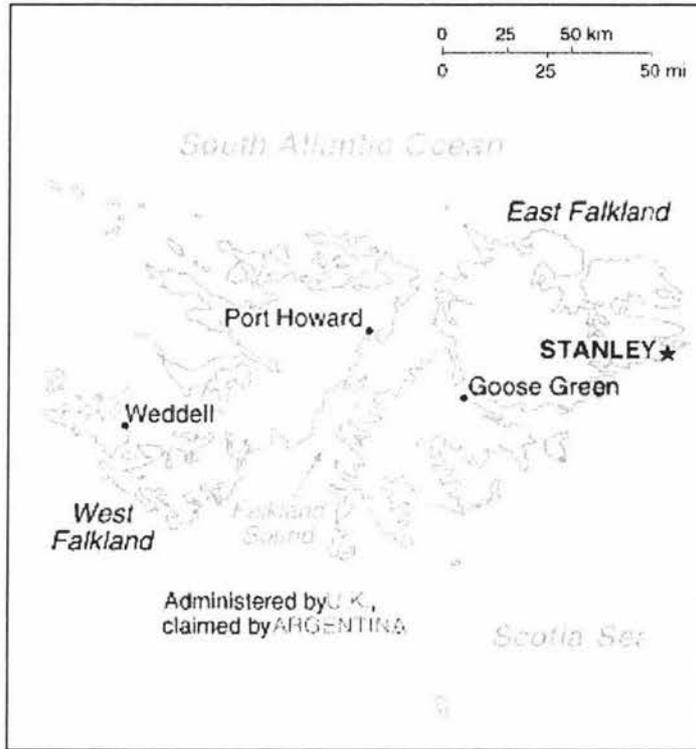
To the US, the involvement in Indochina was motivated by its belief in fighting the Soviet or Chinese supported communist expansion, looking at it from a global perspective. However, once it entering the war, the US tried to seek a solution within Vietnam, first counter-insurgency in the South, then bombing the North to force it to stop supporting the NLF. The war became stalemated, escalated, and protracted. The reason was that the US failed to recognize that the real centre of gravity of the North and the NLF, which was the diplomatic element of power, including the support from China and the Soviets. Fearing possible Chinese and the Soviet intervention, as was believed possible by the US leaders, the US tried to limit its war efforts, allowing the North to have a secure base and a reliable Ho Chi Minh Trail to support the NLF. Furthermore, the massive material support and Chinese manpower support permitted the North to withstand the massive bombing even if its economy was destroyed. As Kissinger pointed out the North could not continue the war without foreign material assistance.²⁷² It was only after Nixon took office, that this centre of gravity was finally compromised. Nevertheless, the time appeared a little bit late for the US. Evolving with the US adjusted objective, a honourable withdrawal, the North's centre of gravity gradually shifted to its national will to fight. To make things worse, this centre of gravity was ironically strengthened by the US's internal problems and the unilateral withdrawal of troops.

To the North and NLF, their strategic approach in the war was correct, conducting a protracted war. But this did not necessarily mean that they had correctly identified the US centre of gravity. Before 1968, the North and NLF focussed their efforts on defeating the US and the South's troops. The Tet Offensive, which militarily failed, but was politically successful, made the North discover the real US centre of gravity, its national will to fight. The difference between the North and the US was that although the North's protracted war strategy at first was aimed at US military power, it in fact attacked the US centre of gravity from the very beginning, albeit unwittingly.

²⁷² Henry A. Kissinger, *American Foreign Policy*, New York: W.W. Norton & Company, Inc., 1974, p. 113.

In all, the North and NLF's centre of gravity was the support from China and the Soviet Union before Nixon reduced it to the North's national will to fight. The critical vulnerability of the North and NLF was China and the Soviet's desire to pursue their national interest. The US's centre of gravity was its national will to fight and its critical vulnerabilities were its public support, partisan interests, and the weakness of the South Government.

Chapter Four: Case Study of the Falklands War



Source: <http://www.infoplease.com/atlas/country/falklandislands.html>

The Falkland Islands (Las Islas Malvinas) are a remote archipelago in the far reaches of the South Atlantic, about 7,500 miles from Great Britain and 300 miles from the Argentine coast. The Islands consist of two large islands, East and West Falkland, and over 200 small islands and islets, a total area of 6,000 square miles.²⁷³ The dispute over the sovereignty of the islands dates back to the middle of 18th century, when Spain protested against the proposed English expedition to the islands, which was believed to be a Spanish colony.²⁷⁴ Britain recognized Spain's sovereignty over the Malvinas in the agreement named Nootka Sound.²⁷⁵ The independence of Argentina from Spain in 1816 was followed by Argentina's struggle to gain control of the Malvinas. In November 1820, Argentina formally took possession of the islands. However, its rule was soon ended in 1833 by Britain with its much stronger military

²⁷³ Fritz L. Hoffmann and Olga Mingo Hoffmann, *Sovereignty in Dispute: The Falklands/Malvinas, 1493-1982*, Boulder, Colo.: Westview Press, Inc., 1984, p. 1.

²⁷⁴ Peter Beck, 'The Policy Relevance of the Falklands/Malvinas Past', in *International Perspectives on the Falklands Conflict: A Matter of Life and Death*, Alex Danchev (ed.), London: Macmillan Press, 1992, p. 20.

²⁷⁵ Hoffmann, L. and Hoffmann, p. 64.

power.²⁷⁶ British rule over the Falklands persisted and is the background to the continuing dispute through to the present. Although, Argentina's claim has arguably gained more support and legal background, the British have an upper hand as the colonial power with much stronger military resources.

The Argentine invasion on 2 April 1982 was primarily the result of long time frustration resulting from endless negotiations, with the aim of settling the issue once and for all. However, the war produced quite different consequences, much worse for the Argentines. After the surrender of the Argentine garrison, Britain adopted a much stronger stance, refusing to negotiate with Argentina. Among the various reasons contributing to Argentina's failure, the failure to identify the enemy's centre of gravity was one of the major ones. Considering this war just consisted of one campaign, the political objectives and operational objectives closely overlapped, thus making for a close relationship between the strategic centre of gravity and operational centre of gravity. This Chapter will consider both the strategic and the operational centres of gravity. However, more attention will be paid to the operational centre of gravity.

Argentine and British strategic centre of gravity

Following the invasion of the Argentinians on 3 April 1982, Prime Minister Margaret Thatcher, when speaking to the House of Commons, defined the Government's political objectives, which were to free the islands from occupation and to return them to British administration at the earliest possible moment.²⁷⁷ In order to achieve this objective, the British Government responded quickly to the crisis by utilizing its diplomatic, economic, and military power to deal with the invasion.

It seems that the main difficulties Britain had to overcome in realizing its objectives came from Argentina's military, political, and diplomatic elements of power, because in a short time limited war, economic and social elements of power are slow in taking effect. These latter are more prominent in a general war or protracted war. Although

²⁷⁶ Beck, p. 20.

²⁷⁷ Margaret Thatcher's speech in the House of Commons on 3 April 1982, in *Britain and the Falklands Crisis: A Documentary Record*, Central Office of Information, London: Central Office of Information, 1982, p. 26.

Britain froze all Argentine financial assets in Britain, banned imports from Argentina, and pushed European Community to impose a one-month embargo on Argentine goods, these measures could not hurt Argentina's war capabilities very much. The social factor was less influential than the economic dimension, even though the patriotic sentiment and strong belief in Argentina's sovereignty over the Falklands had initiated strong support for the Argentine Government's military actions. However, the war was conducted, by and large, several hundred miles away from the Argentine mainland. The public support could not affect military strength over a short period of time.

In the diplomatic area, Argentina's successful efforts to negotiate a settlement would have frustrated one of the British objectives, to restore British administration over the Islands, if Argentina had accepted the various proposals during the conflict. At the beginning of the conflict, Argentina was very isolated as a consequence of using of force to solve the dispute. On 2 April when the United Nations Security Council passed Resolution 502 demanding the withdrawal of Argentina troops from the Islands, only Panama supported Argentina's opposition to the resolution²⁷⁸. However, Argentina was able to win some diplomatic assistance for certain other powers during the course of the War.

Ironically, Argentina's most important diplomatic support came from the United States, a traditional ally of Britain and in fact the largest supporter of Britain during the war. Unlike the Vietnam War, which was fought between communists and anti-communist countries, the Falklands War was fought within the anti-communist sphere. Since Argentina had played an important role against communist movement in South America, the US believed it was important to maintain a good relationship with Argentina in keeping its backyard free from communism.²⁷⁹ Thus Argentina could use this as leverage in drawing the US to mediate a peaceful solution. Although the American tilt towards Britain was obvious throughout the war, its role in making a settlement was irreplaceable. In safeguarding its own national interests, the US provided support and imposed pressure on Britain at the same time. A most ironic

²⁷⁸ Central Office of Information, *Britain and the Falklands Crisis: A Documentary Record*, London: Central Office of Information, 1982, p. 5.

²⁷⁹ Christoph Bluth, 'Anglo-American Relations and the Falklands Conflict', in *International Perspectives on the Falklands Conflict*, Alex Danchev (ed.), London: St. Martin's Press, 1992, p. 203.

development occurred 4 June 1982 when the Security Council, voting on the UN draft resolution demanding an immediate cease-fire, both Britain and the US used their veto power to stop the passage of the motion. However, immediately after voting, the US Ambassador to the UN, Mrs. Kirkpatrick, received information asking her not to veto the draft. Rather than letting matters rest the Ambassador was told to announce a decision to abstain, presumably in the hope of salvaging some credibility with Latin America.²⁸⁰

Like Britain found relatively easy to seek diplomatic support in Europe, Argentina found no much difficulties in winning support from most Latin and Central American countries. Panama was the only consistent supporter for Argentina in the UN Security Council. Peru volunteered to help Argentina to revive peace negotiations when the US's Secretary of State Haig's shuttle diplomacy failed to persuaded both sides to make necessary concessions.²⁸¹ On 28 April, Argentina managed to persuade the Organisation of American States (OAS) to pass and issue a Resolution condemning Britain, and calling for a complete withdrawal of both sides' forces from the disputed area.²⁸² Furthermore, Argentina's attendance at the non-alignment countries' meeting in Cuba probably won the support of Zaire and Uganda on the UN 4 June vote, forcing Britain to use veto power.²⁸³ However, Argentina's diplomatic efforts could only win some moral support. No countries during the war gave direct military and economic support to Argentina. To make thing worse, this power was compromised by Argentine Government's inflexible strategy in negotiations.

From a political perspective, Argentina's national will to fight was weak. If the only criterion was public support for the military operation to take over the Islands, Argentina's national will to fight could be described as very strong, because Argentine citizen showed a strong support for their government decision to retake the lost territories. However, during the conflict, Argentina expressed little will to fight, because the Argentine Government did not want to conduct a war with Britain. In its original plan, using force to capture the islands was just the means to force Britain to

²⁸⁰ Lawrence Freedman and Virginia Gamba-Stonehouse, *Signals of War: The Falklands Conflict of 1982*, London: Faber and Faber, 1990, pp. 355-356.

²⁸¹ Freedman, Virginia Gamba-Stonehouse, 1990, pp. 272-291.

²⁸² Bluth, in Danchev, 1992, p. 215.

²⁸³ Freedman and Virginia Gamba-Stonehouse, 1990, p. 355.

accept a *fait accompli* and negotiate a transfer of sovereignty.²⁸⁴ The Argentines had numerous plans about how to occupy the islands, but no plan as to how to defend them after occupation. During the conflict, not only national leadership, but also military commanders believed that war could be and had to be avoided.²⁸⁵ The outcome of this flawed belief was poor military preparation both mentally and materially, and an inability to achieve the best they could get from an inferior military position. It seems that the Argentine Government's illusions during the escalation of conflict became a critical vulnerability, which was a major reason for its failure to hold on to the islands.

For Britain, the real problem was that Argentina had used force and retaken the Islands, and now had a more favourable position from which to negotiate than before. Argentina might adopt the same strategy Britain had used in the past negotiations, if its objective of sovereignty transfer could not be realized. Thus the Argentine military occupation became the central issue in the conflict. It was acceptable to Britain to use diplomatic and military pressures to get the Argentine out of the Islands, but the possibilities were obviously minimal. There were a number of reasons for the final use of force. First, probably the most important, was that the two sides positions about the fate of the Islands were too divergent to allow negotiation. Britain's bottom line was that the future of the islands should be decided by the *wishes* of the Islanders.²⁸⁶ Because of the demographic feature of the islands, deciding the islands' future based on the Islanders' *wishes* or *self-determination* most likely meant Argentina would lose the islands forever.²⁸⁷ A treaty including a clause for this was totally unacceptable for Argentina. It was even worse than none. At least, a surrendering with this kind of agreement could keep the Argentina's dream alive. Therefore, Argentina's basic line was that only the *interests* of the Islanders should be considered.²⁸⁸ Second, Britain thought it was a national humiliation when Argentina, a weaker country dared to use force to retake the islands.²⁸⁹ So, it was necessary to teach Argentina a lesson to show Britain's strength and resolution. It was even possible that Britain want to take this

²⁸⁴ Freedman and Virginia Gamba-Stonehouse, 1990, p. 81.

²⁸⁵ Freedman and Virginia Gamba-Stonehouse, 1990, p. 79.

²⁸⁶ Clive Ellerby, 'The Role of the Falkland Lobby, 1968-1990', in Danchev, 1992, p. 86.

²⁸⁷ Bluth in Danchev, 1992, p. 212.

²⁸⁸ Bluth in Danchev, 1992, p. 213.

²⁸⁹ Lawrence Freedman's comment in 'Twenty Years On: The Falklands War in Perspective', *RUSI Journal*, June 2002, p. 65.

opportunity to stop the endless negotiations. The last was domestic political need. The Thatcher Government and the country were in an extremely difficult position when the war broke out.²⁹⁰ Economic depression and the unpopularity of the Government required something to stimulate the national spirit and public support. The war proved to be a success for the Government. Thatcher won a landslide victory in the following year's election.

During the war, Britain's efforts were focused on Argentine military power, which proved to be the strategic centre of gravity later. Although Britain conducted a series of diplomatic initiatives, Britain settled in the end for a military solution. Britain believed that the passing of the UN Security Council Resolution 502, demanding Argentine forces immediately withdraw from the Falkland Islands (Islas Malvinas)²⁹¹, gave it the mandate to use force in the name of self-defence. The acceptance of mediation was aimed to further broaden international support.²⁹² The arms embargo by western countries, especially France and Germany proved to be very important for Britain's operations in the South Atlantic. French-manufactured Exocet anti-ship missiles accounted for three of six British ship losses.²⁹³ If France had not stopped exporting Exocets to Argentina, and informed Britain as to how to deal with the missiles, the final result of war might have been different. The US's logistic support on Ascension Island,²⁹⁴ the advanced Sidewinder air-to-air missiles, which allowed the British to obtain a measure of superiority over Argentina in air-to-air engagements were also inseparable contributing factors to British victory. Argentina even suspected Haig's mediation was just a trap to buy time for British Task Force.

For Argentina, Britain's centre of gravity was also its military power. Since Argentina had already occupied the islands, economic and diplomatic pressures were not strong enough to get them out. It was clear only the British Task Force could do it. However,

²⁹⁰ Ibid.

²⁹¹ UN Security Council, 'Security Council Resolution 502 of 3 April 1982', in Central Office of Information, 1982, p. 34.

²⁹² Douglas Kinney, 'Anglo-Argentine Diplomacy and the Falklands Crisis', in *The Falklands War: Lessons for Strategy, Diplomacy and International Law*, Alberto R. Coll, Anthony C. Arend (ed.), London: George Allen & Unwin Ltd., 1985, p. 91.

²⁹³ Nigel West, *The Secret War for the Falklands: The SAS M16, and the War Whitehall Nearly Lost*, Great Britain: Little, Brown and Company, 1997, p. xx.

²⁹⁴ An Island in the middle of Atlantic Ocean, which was also half way from Britain to the Falkland Islands. Although the island belongs to British, the airport on it was controlled by the US.

Argentina's war efforts appeared to centre on the diplomatic sphere, not the military area. The military occupation had been a means to achieve a quick end to negotiations. Diplomatic efforts were now centred on how to make a peace deal with Britain, on the assumption that Britain wanted to negotiate a peace as well. This wrong identification of the British strategic centre of gravity led to the Argentines overlooking of the role of military power. To make things' worse, Argentina's relatively weaker military power during the conflict was neither concentrated, nor acted on Britain's military centre of gravity.

Argentine and British operational centre of gravity

Britain's military reaction was quick and decisive. The Task Force sailed from Portsmouth on Monday 5 April, only three days following Argentina's invasion.²⁹⁵ The planned operation was called as Operation Corporate, with the objective "to cause the withdrawal of the Argentine forces, and to restore the British administration,"²⁹⁶ a clear political objective using military means. The main combat forces of the Task Force, including the reinforcement on 26 May were:

Naval Force: two aircraft carriers: *Hermes* and *Invincible* with twenty-two *Harriers*, eight destroyers: *Antrim*, *Glamorgan*, *Bristol*, *Cardiff*, *Coventry*, *Exeter*, *Glasgow*, *Sheffield*, fifteen frigates: *Battleaxe*, *Brilliant*, *Broadsword*, *Alacrity*, *Ambuscade*, *Antelope*, *Ardent*, *Arrow*, *Avenger*, *Andromeda*, *Bacchante*, *Minerva*, and *Penelope*, three nuclear attack and one conventional submarines: *Conqueror*, *Spartan*, *Splendid*, and *Onyx*, two assault ships: *Fearless* and *Intrepid*, and various landing and support ships.²⁹⁷

(Air Force: small numbers of *C-130 Hercules* transport aircraft, *VC10s*, *Nimrods*, and *Vulcan* bombers and reconnaissance aircraft.²⁹⁸)

Landing Force: 3rd Commando Brigade Royal Marines including attached Army units, 5th Infantry Brigade, and Special Forces.²⁹⁹ The total number was about 7,300.³⁰⁰

²⁹⁵ Sandy Woodward and Patrick Robinson, *One Hundred Days: The Memoirs of the Falklands Battle Group Commander*, London: Harper Collins Publishers, 1992, p. 77.

²⁹⁶ Freedman and Virginia Gamba-Stonehouse, 1990, p. 125.

²⁹⁷ Adrian English and Anthony Watts, *Battle for the Falklands (2): Naval Forces*, London: Osprey Publishing Ltd, 1982, pp. 38-39.

²⁹⁸ Roy Braybrook, *Battle for the Falklands (3): Air Forces*, London: Osprey Publishing Ltd., 1982, p. 19.

²⁹⁹ William Fowler, *Battle for the Falklands (1): Land Forces*, London: Osprey Publishing Ltd., 1982, p. 12.

The Argentine armed forces were one of the strongest in Latin America. From the early 1970s, the Argentine government had engaged in a substantial military build-up and purchased many modern European weapons systems, including some from Britain itself. Military expenditure rose up from \$792 million for 1972 to \$4,147 million for 1982.³⁰¹ Some of the weapons, such as Super Etendard aircraft and *Exocet* missiles, were high technology for the time. The troops were also trained with US doctrine.³⁰² The consequences for Argentina's initiation of the war were that operations now had to be mounted despite clear deficiencies in material and training. The Argentine assets available for repelling a British invasion were:

Naval Forces: one aircraft carrier: *Veinticinco de Mayo*, one cruiser: *General Belgrano*, six destroyers: *Segui*, *Hipolito Bouchard*, *Piedra Buena*, *Comodoro Py*, *Hercules*, and *Santisima Trinidad*, three frigates: *Drummond*, *Guerrico*, and *Granville*, three to four conventional submarines: *Santa Fe*, *Salta*, and *San Luis*, ten to twelve *A-4*, five *Super Etendard*, and eight to ten *MB-339*.³⁰³

Air Force: fifty to six-eight *A-4*, twenty to twenty-one *Mirage III*, twenty to twenty-six *Mirage V (Dagger)*, thirty to sixty *Pucara*, and five to nine *Canberra*.³⁰⁴

Land Force on the Falklands: 8,400 in Port Stanley, 1,600 in Goose Green/Darwin, 1,700 in West Falkland Port Howard and Fox Bay.³⁰⁵

Comparing the two armed forces, the Argentines enjoyed some advantages in certain areas. Firstly, they were larger in number, especially in fixed-wing aircraft and ground troops. Britain had only 22 jet combat aircraft in the war area, while Argentina had about 148. The British landing force was just 7,300 strong, while the Argentine defenders consisted of more than 13,000 troops. Secondly, because of the British limitation of the theatre, the mainland of Argentina was immune from British attack. Thus Argentine air power had relatively safe bases from which to operate, while British air assets operating from carriers had to face constant threats from Argentine

³⁰⁰ Martin Middlebrook, *The Fight for the 'Malvinas': The Argentine Forces in the Falklands War*, London, Penguin Group, 1989, p. 63.

³⁰¹ Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War: Volume III: The Afghan and Falklands Conflicts*, Boulder, Colo.: Westview Press, 1991, pp. 264-265.

³⁰² Freedman and Virginia Gamba-Stonehouse, 1990, p. 111.

³⁰³ English and Watts, 1982, pp. 38-39.

³⁰⁴ Cordesman and Wagner, 1991, p. 261.

³⁰⁵ Fowler, 1982, p. 24.

air and submarine attacks. Third, Argentina had much shorter logistic supply line. Its combat troops on the islands consumed much less than the British Task Force in the South Atlantic. Fourth, the British troops had to conduct an amphibious landing operation, which is believed to one of the most difficult military operations to carry out. The defenders had more than forty-five days (from 2 April to 18 May) to fortify their defences. Even more, their ground weapons were as advanced as those of the British. They had Italian and French guns, Swiss and German anti-aircraft artillery, and French Roland and British Tigercat and Blowpipe surface to air missiles. Their night vision goggles were even a generation ahead of British equipment.³⁰⁶

On the opposite side, Britain had certain advantages. First of all, the British troops were well trained and organized, which arguably was one of the most important factors contributing to their victory. There was a sharp contrast between the two sides' ground troops. Most of Argentine troops in the Falklands were conscripts, with limited time in service in their units.³⁰⁷ They were not prepared to fight militarily and mentally. During Goose Green operation, the first major land battle, a battalion British troops defeated more than a regiment Argentine defenders. Over 1,200 surrendered to less than 500 British regulars.³⁰⁸ Second, the combat area was far from Argentina mainland once Argentine air power tried to attack the Task Force at sea or the landing forces on the Falklands. Its combat aircraft had to fight at the absolute limit of their range, with less than five minutes over the target area. In order to achieve longer range, they had to fly at relatively low speed, which assisted the Harriers. Furthermore, the Harriers could get the enemy aircraft's location and course from ship-bore [^]_^ radars, thus enjoying an information advantage, which was critical in a matter of seconds-long air engagement. Thirdly, when considering all the combat forces as a system, the British system was more balanced and advanced. Although Argentina had some advanced weapon systems, the overall force make-up was uneven. The Air Force was less developed than the other two services. Most of its aircraft did not have electronic countermeasures system,³⁰⁹ leaving them to face extreme danger in attacking a modern combat ship with anti-air missile systems. The weakness in

³⁰⁶ Fowler, 1982, p. 11.

³⁰⁷ Cordesman and Wagner, 1991, p. 284.

³⁰⁸ David Aldea and Don Darnell, 'Blood and Mud at Goose Green',

<http://proquest.umi.../pqdweb?Did=000000106065681&Fmt=4&Deli=1&Mtd=17&Idx=2&Sid=2RQT=30>, (13 June 2003). This article was published in *Military History* April 2002.

³⁰⁹ Cordesman and Wagner, 1991, p. 308.

anti-submarine capabilities, demonstrated by the sinking of *Belgrano* forced the remainder of the Argentina fleet to withdraw from the open sea to shallow waters.³¹⁰ Without the help of surface ships, the Air Force made no attempt to fight for the control of air. However, the British overall military advantage arguably was not the main reason of Argentina's total failure. Its failed strategy probably played a more decisive role than the inferior military power.

Argentina's military strategy in the war was very confused. There was no clearly defined military aim to support the political objective. It seems that Argentina's political objectives were changed during the conflict. At the beginning, when British military threat was not imminent, the objective was to force Britain to negotiate sovereignty transfer. Later as British military pressure increased, the objective was lowered to holding off British administration and keeping the hope of sovereignty transfer alive.³¹¹ If using these political objectives to guide military operations, the operational objective could be defined as defeating the British amphibious landing operation, or inflicting heavy enough casualties on British forces to force the British Government to make some concessions. In retrospect the war, at least at two junctures, showed the British Government had serious concerns about casualties. First was during the operation to recapture South Georgia³¹² and second was the loss of *Sheffield*.³¹³ But as the war continued, especially when victory was at hand, the casualty issue diminished.

As to the centre of gravity of the Task Force, Lawrence L. Izzo, has argued that the aircraft carriers should be considered the centre of gravity during the first phase of the campaign, that period up to, and including, the amphibious landing at Port San Carlos by the Royal Marines on 21 May. Once the landing succeeded and 3 Commando Brigade was ashore, the Marine brigade group became the operational centre of gravity. British victory in this campaign depended upon seizing terrain, retaking Port Stanley and forcing the surrender of the Argentine forces there.³¹⁴ Edward B. Zelleme agreed with Izzo in defining the carriers as the centre of gravity, but this centre of

³¹⁰ Middlebrook, 1989, p. 116.

³¹¹ Freedman and Virginia Gamba-Stonehouse, 1990, pp. 309-310.

³¹² Freedman and Virginia Gamba-Stonehouse, 1990, pp. 223-224.

³¹³ Martin Middlebrook, *The Falklands War 1982*, London: Penguin Books, 2001, p. 165.

³¹⁴ Lawrence L. Izzo, 'The Centre of Gravity Is not an Achilles Heel', *Military Review*, January 1988, pp 75-76.

gravity existed through the campaign. Argentina's failure was not the result of having attacked the wrong centre of gravity, but lacking the capabilities to destroy either or both of them.³¹⁵

It was true the two British carriers played critical roles in the campaign. They provided valuable air cover for the ships and landing forces, and important close air support. However, if the centre of gravity comes simply from the role, the nuclear attack submarines might be regarded as important as the carriers. Without them, Argentine surface ships might have engaged on the Task Force.

In fact, the carriers and other combat ships' threats to the Argentine troops were not so serious as to expel the Argentines from the Falklands. They posed two kinds of direct threats to the Argentine troops. First was to threaten the Argentine's logistics. This threat really closed off Argentine support to the Islands by sea after the Task Force arrived in the operational area. However, when the cut-off took place at the end of April, Argentina had already put heavy equipments and large amounts of war materials on to the Islands.³¹⁶ Furthermore, the Argentine Air Force could supply the Islands with C-130 loads at night, because the Harriers' radar systems lacked capabilities in detecting low flying aircraft and could not intercept C-130 in the dark.³¹⁷ The attacks on the Port Stanley airport had little material result throughout the war as well.³¹⁸ On 9 June, five days before the surrender, General Daher, Menendez's Chief of Staff flew from Stanley to Buenos Aires to explain the situation in the Islands. He reported there was enough ammunition and food to last until 23 June. President Galtieri was informed that all they needed was 'ten thousand pairs of bootees and long underpants as a change of clothes.'³¹⁹ When the British troops entered Port Stanley, they were shocked by the huge stockpiles of weapons that had not been used.³²⁰ The second threat was the fire support by Harriers and ships' guns. Britain only had twenty-two Harriers in the theatre during the war. Apart from the air defence for the ships and air cover for the landing forces, the number could be used to

³¹⁵ Edward B. Zelle, *Clausewitz and Seapower: Lessons of the Falkland Islands War*, Au/ACSC/237/1999-03, Maxwell Air Force Base: Air University, 1999, pp. 30-31.

³¹⁶ Middlebrook, 1989, pp. 294-295.

³¹⁷ Roy Braybrook, 'Reassessing the Lessons of the Falklands War', *Asia-Pacific Defence Reporter*, April-May 1992, p. 42.

³¹⁸ Cordesman and Wagner, 1991, p. 316.

³¹⁹ Freedman and Virginia Gamba-Stonehouse, 1990, p. 390.

³²⁰ Cordesman and Wagner, 1991, p. 334.

conduct effective close air support was very limited. The naval gunfire was not a formidable challenge as well. During the Goose Green operation, one of the most serious battles in the war, British attacking troops only got gunfire support from HMS Arrow³²¹, which just had one 4.5 in. gun.³²²

It was clear that only the 3rd Commando Brigade Royal Marines and the 5th Infantry Brigade could ensure Britain to achieve its military and political objectives. The successful British landing operation at San Carlos imposed a direct threat to the Argentine centre of gravity. Every step of British success meant a further weakening of the Argentine centre of gravity. The nearer the British troops came to Port Stanley, the harder the British Government's attitude became.³²³ The surrender of Argentine troops on the Islands saw the resumption of British Administration and sovereignty.

It appears that during the war, the Argentines' wrong identification of the British strategic centre of gravity directly resulted in the confusion of their military strategy. The correct military strategy should have centred on how to defend the Islands and defeat the British amphibious operation. However, as Cordesman and Wagner pointed out the war was more a contest between a British naval task force and land-based Argentine air forces than a struggle between armies.³²⁴ It was a great pity for the Argentine pilots, for during the war, their efforts had not been directed at enemy's centre of gravity; but at the enemy's critical capability, the strongest part of enemy. Arguably before the amphibious operation, British centre of gravity might be considered to be the liners Canberra, carrying 3rd Commando Brigade, and Queen Elizabeth II, carrying 5th Infantry Brigade.³²⁵ But in reality, they were British critical vulnerabilities. They had no self-defence capability. Therefore, if Argentina had focused their attacks on them and been able to sink one or both, the result of the war might have been different. Such an occurrence would most likely have meant heavy casualties for the British, possibly serious enough to force the British Government to reconsider its position in the diplomatic negotiations. Even if the British Government could stand the blow and send another brigade down, it would take at least another

³²¹ Harry G. Summers Jr., 'To Port Stanley', *Military Review*, March 1984, p. 6.

³²² English and Watts, 1982, p. 39.

³²³ Freedman and Virginia Gamba-Stonehouse, 1990, pp. 298-318, 342-343, 353-356.

³²⁴ Cordesman and Wagner, 1991, p. 238.

³²⁵ Freedman and Virginia Gamba-Stonehouse, 1990, p. 325.

two weeks.³²⁶ This would have given Argentina more valuable time to negotiate. If the sinking had been close to the landing, the British might have had no choice, but to make a deal. For late May was the last suitable time in the winter to conduct amphibious operations around the Falklands. The Task Force could not wait in the rough South Atlantic waters over the winter.

However, once the troops landed on the Falklands and dispersed, they were much less vulnerable. This was the critical time for the Argentine troops to demonstrate their capabilities. Instead of waiting in their static defence positions, they should have adopted a more offensive strategy, especially during the critical first stage of enemy's landing operation. As to the Air Force and Navy, sinking one or two destroyers or frigates were losses to the British, but they did not affect British operational capabilities very much, as showed in the sinking of the *Sheffield*. The Argentines' efforts should have focused their attacks on the British logistic support line and support ships. (The sinking of the *Atlantic Conveyor*, a container ship with three Chinooks, five Wessex and other war materials on board, showed the great potential of attacking supply ships. As Major General Julian Thompson, commander of 3rd Commando Brigade, revealed, the sinking was 'a major set-back of the campaign.'³²⁷ The lost of the valuable helicopters considerably hindered the British troops mobility on the Islands.)

For the British, Argentina's land force on the Islands was the operational centre of gravity. The defeat of Argentine Navy or Air Force could not directly result in the attainment of the objective. On 26 April, the Argentine fleet was constituted as three Task Groups: Task Group 79.1 (one carrier and four destroyers), Task Group 79.3 (one cruiser and two destroyers), and Task Group 79.4 (three frigates).³²⁸ The three groups were fully prepared to fight by 30 April. On 1 May, the Argentine carrier group planned to launch an attack against the British carriers, but the operation failed because of light winds.³²⁹ After the sinking of *Belgrano*, all Argentine surface ships were ordered to withdraw from the operation, leaving the hope of sinking the British

³²⁶ Freedman and Virginia Gamba-Stonehouse, 1990, p. 325, 363.

³²⁷ Julian Thompson, 'Falklands: With Hindsight', *Army Quarterly & Defence Journal*, July 1992, p. 365.

³²⁸ Middlebrook, 1989, p. 97.

³²⁹ Middlebrook, 1989, p. 294.

ships to the submarines, against which the British had to conduct anti-submarine operations for a considerable period. However, the threat might have been overestimated. Because of technical problems, only one submarine was available for sub-surface operation. It was said the even this submarine had problems with its fire control system, which might have resulted in the failure of two torpedo attacks against British ships.³³⁰

The real challenge for the British Task Force was from the aircraft of Argentina's Navy and Air Force. Naval Super Etendard aircraft sank one destroyer and the Atlantic Conveyor with five Exocet anti-ship missiles. The Air Force sank three warships, one Royal Fleet Auxiliary (RFA), and damaged eight warships and two RFAs with conventional bombs. The Task Force was quite lucky, because the Argentine Air Force was primarily trained for land support missions. They had little experience in attacking ships at sea, resulting in quite a number of bombs hitting British ships but failing to explode. Had all the bombs that hit Royal Navy ships actually detonated, then British losses would have been much heavier.³³¹ Furthermore, most of British casualties were caused by air attacks. Of 217 British deaths, aircraft action caused 141. In sharp contrast, more than ten thousand troops only inflicted 64 fatal casualties on the British, showing clearly how poorly they had fought.³³²

However, it is reasonable to deduce that the Argentine air power had reached the maximum of what it could achieve (During the war, the Argentine Air Force had no capability to seriously challenge British Harriers over the Falklands.) The record of air-to-air combat loss rate was 24:0, in favour of the British.³³³ Argentina also lost twenty aircraft to ground- and sea-based weapons, including eleven to a Special Air Service demolition operation. The total loss was 41% of its air power strength.³³⁴ If the number of non-combat non-operational aircraft was subtracted, Argentina probably had very few combat aircraft available at the end of war. Therefore,

³³⁰ Ibid.

³³¹ Ian Speller, 'Delayed Reaction: UK Maritime Expeditionary Capabilities and the Lessons of the Falklands Conflict', *Defense & Security Analysis*, Vol. 18, No.4, 2002, p. 367.

³³² Middlebrook, 2001, p. 384.

³³³ Cordesman, Wagner, 1991, p. 304.

³³⁴ James S. Corum, 'Argentine Airpower in the Falklands War: An Operational View', *Air & Space Power Journal*, Fall 2002, pp. 59-77.

Argentine air power, although forming the most serious threat to the Task Force, was contained by the British in the event.

In fact, during the war, the British had not treated Argentine air power as the centre of gravity, Task Force commander Admiral Sandy Woodward defined his objectives as “to neutralize the enemy navy and air force, to put our landing force ashore safely, and then give all the support I could – air, gunfire, and logistic supplies – in order to give our land forces the best chance of forcing an unconditional surrender of all Argentinian forces in the islands.”³³⁵ This clearly shows that the land operations lay at the centre of the British campaign. To neutralize the enemy navy and air force was sufficient, and that served to allow the subsequent landing operations to proceed without hindrance.

The other two factors, military culture and information capability also played important roles in the operations. The inferior combat capabilities of the Argentine Army primarily derived from its culture. The conscripts spent just two years in the Army. When the war broke out, some of the soldiers deployed to the islands were still half trained. The relationship between officers and soldiers was also unsatisfactory. Officers usually enjoyed some privileges over soldiers. The Army issued two distinctly different ration packs for soldiers and officers. The officer one contained more food of better quality, extra comforts, and an issue of cigarettes and whisky.³³⁶ The lack of training and leadership resulted in the quick dilution of combat morale, which had been very high before the start of the war.

The British information operations remained small although significant. During the war, some electronic counter-measures were adopted by the British forces to deal with Argentine anti-ship missiles. With the help of the US, who had decoded Argentina radio communications, the British forces could intercept the orders of the Argentine commanders and know their forces’ movement.³³⁷ Because of the lack of satellite intelligence capabilities, Britain also stressed the using of Special Forces in collecting

³³⁵ Sandy Woodward and Patrick Robinson, *One Hundred Days: The Memoirs of the Falklands Battle Group Commander*, London: Harper Collins Publishers, 1992, p. 21.

³³⁶ Fowler, 1982, pp. 30-31.

³³⁷ Freedman and Virginia Gamba-Stonehouse, 1990, pp. 131-132.

tactical information in the Falklands and even on Argentine mainland.³³⁸ It was clear that these operations did not have their own strategic objectives, but were components of land and air warfare.

In retrospect, the strategic centres of gravity of both sides were each opponent's military power, though diplomatic efforts appeared to overshadow the military confrontation in the early days. Nevertheless, the final result was still decided on the battlefield. Throughout the war, generally speaking, British strategies were more reasonable than Argentina both at national and operational levels. At the national level, Britain coordinated its diplomatic, economic, and military power to achieve its political objectives. It seems that Britain was willing to negotiate a settlement, but was more prepared for military solution. To some extent, the economic sanctions and diplomatic negotiations were directed to create certain necessary legal and operational conditions for the military action to end the Argentine military occupation. On the opposite side, Argentina failed to realize the gap between the two sides was beyond negotiation. If they were not prepared to make concessions, they should have centred their efforts on the war, instead of negotiations. However, during the precious pre-war time, they first assumed Britain would not send large forces to the South Atlantic. Once the British forces were dispatched, the Argentines started to hope it was just a posture, and left their military forces confused and unprepared.

At the operational level, the Argentine armed forces identified the wrong British centre of gravity. British combat ships were the critical capabilities of the Task Force, but not the centre of gravity. The real British military centre of gravity was its landing troops and the amphibious operation. Before the landing, the Canberra and the Queen Elizabeth II could be considered as the centre of gravity. But in reality, they were British critical vulnerabilities. The sinking of several combat ships did not obviously weaken British amphibious operational capability. Instead of attacking British critical capabilities, Argentina should have focused on those ships carrying troops and war materials. They were the critical vulnerabilities and attacking them might have given a better chance for success.

³³⁸ Alastair Finlan, 'British Special Forces and the Falklands Conflict: Twenty Years On', *Defense & Security Analysis* Vol.18, No.4, 2002, pp. 319-332.

On the British side, their efforts were correctly directed towards Argentina's centre of gravity: the defending troops on the Falklands. Although, Argentine air power inflicted more casualties on the British, the defeat of Argentine air power could not result in military victory and realization of the political objectives. Argentina's military critical vulnerabilities were its surface ships and the land forces deployed on the islands.

In all, the war clearly demonstrates the interconnection between the objectives and the centres of gravity. The objective determines the centre of gravity, and successfully attacking the centre of gravity directly contributes to the achievement of objective. Furthermore, the way to approach the centre of gravity might be varied. A commander could decide to attack his enemy's centre of gravity directly, or via critical capabilities, or through critical vulnerabilities, according to different situations.

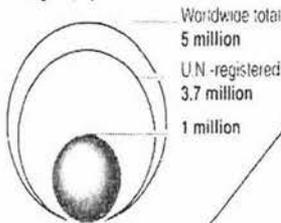
Chapter Five: Case Study of the Palestinian and Israel Conflict

Palestinian refugees

Figures as of June 2000

	Number of camps	Registered refugees	Camp populations
Jordan	10	1,570,192	280,191
West Bank	19	583,009	157,676
Gaza Strip	8	824,622	451,186
Lebanon	12	376,472	210,715
Syria	10	383,199	111,712
Total	59	3,737,494	1,211,480

Comparative size of Palestinian refugee populations

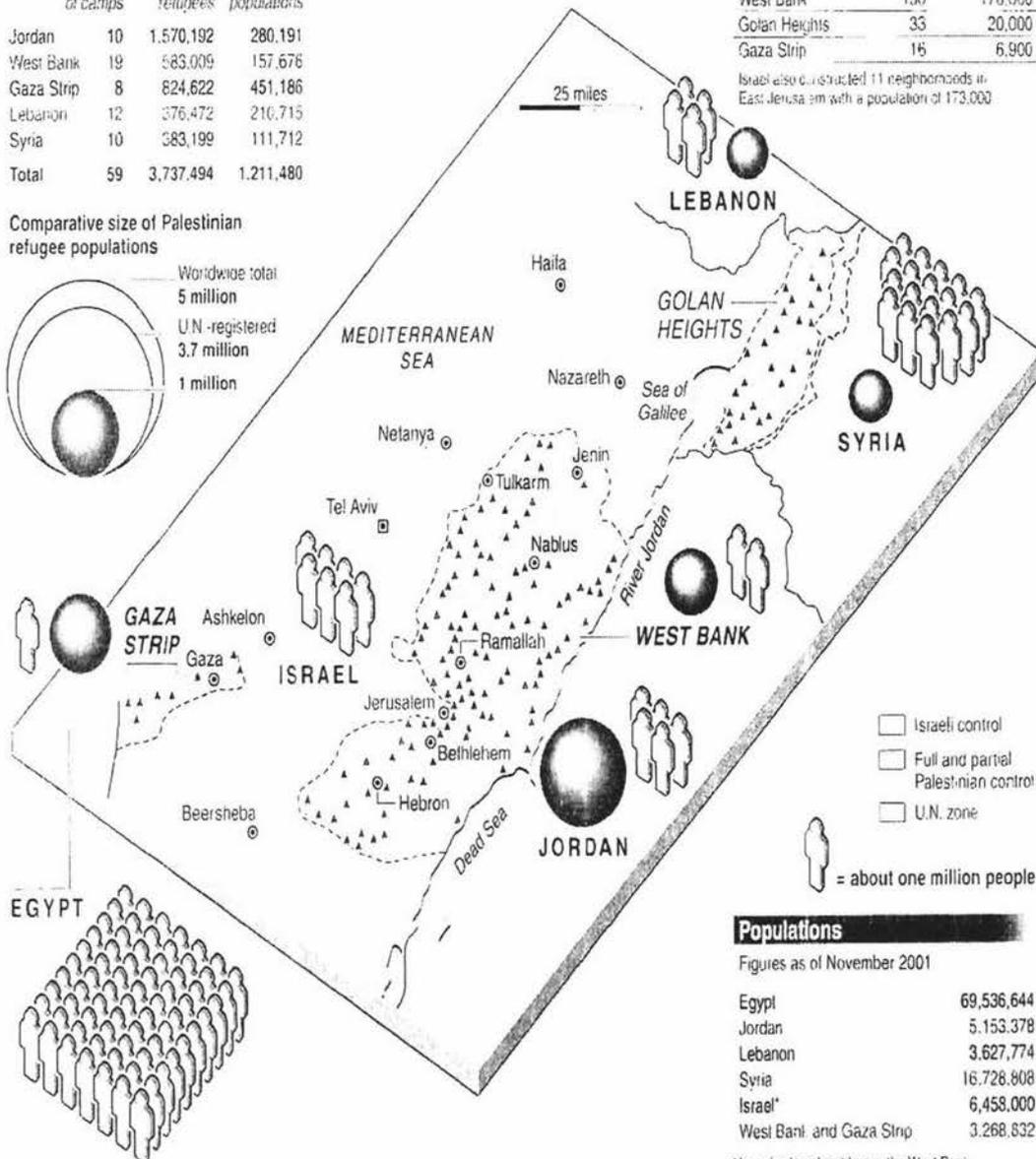


▲ Israeli settlements

Estimated figures as of August 2000

	Settlements	Population
West Bank	130	176,000
Golan Heights	33	20,000
Gaza Strip	16	6,900

Israel also constructed 11 neighborhoods in East Jerusalem with a population of 173,000



Note: not all Israeli settlements are shown on the map

Sources: UNRWA, CIA World Factbook

Source: Reuters, *The Israeli-Palestinian Conflict: Crisis in the Middle East, USA:* Time Moore, 2002.

This terrorism will not be defeated without peace in the Middle East between Israel and Palestine. Here it is that the poison is incubated. Here it is that extremist is able to confuse in the mind of a frighteningly large number of people... to translate this moreover into a battle between East and West, Muslim, Jew and Christian.

Tony Blair

Palestinians and Israelis have been in serious conflict since the Palestine Mandate was partitioned by the United Nations (UN) in 1947. The repeated conflicts have not only caused great trouble for both Israelis and Palestinian/Arabs, but also threatened the world peace as a whole. As British Prime Minister Tony Blair pointed out, it has become one of the seedbeds of the world terrorism. Solutions to this problem have all ended in vain. The renewed violence since September 2000 in Palestinian territories of the West Bank and Gaza, and the urgent need in dealing with international terrorism have pushed the United States, the European Union, Russia and the UN to formally launch more rounds of peace effort.³³⁹ A 'Road Map' for peace is said to give the world a new hope to see the end of conflict. However, from the past experience, it is far too early to say that peace will be achieved. In this Chapter, the thesis will try to use the concept of the centre of gravity to understand the real impediments that have hindered the peace process in the past, and consider whether the new peace effort has the potential to remove them.

The Palestinian centre of gravity

The historical linkage of the Jews with Palestine dated back to 1020 B.C. when the kingdom of Israel was established there.³⁴⁰ Historians agree that many Jews migrated from Palestine voluntarily long before the Christian Era. The destruction of the Second Temple by the Romans in the year 70 A.D. led to a considerable increase in the size of the Jewish Diaspora.³⁴¹ Many Jews went to Europe where numbers later became merchants, financiers, goldsmiths and craftsmen, among other occupations.

³³⁹ The U. S. Department of State, 'A Performance-based Roadmap to a Permanent Two-state Solution to the Israeli-Palestinian Conflict', <http://www.state.gov/r/pa/prs/ps/2003/20062.htm>, (25 July 2003).

³⁴⁰ Lester A. Sobel and Hal Kosut, *Palestinian Impasse: Arab Guerrillas & International Terror*, New York: Facts on File, 1977, p. 2.

³⁴¹ Ian J. Bickerton and M. N. Pearson, *The Arab-Israeli Conflict: A History*, Melbourne: Longman, 1993, p. 19.

The original idea of returning Palestine and establishing a Jewish state came from Zionist founder Theodor Herzl in 1896.³⁴² The reasons for it were very complicated. But the two of the most important ones were: evading the anti-Semitism in Europe and religious aspirations. The first major progress for the Zionist movement was the issue of Balfour Declaration by the British Government in November 1917 during the First World War, which enunciated Britain's support of the concept of the establishment of a national home for Jewish people in Palestine.³⁴³ The attempt by Nazi Germany to annihilate European Jews during the Holocaust claimed some six million Jewish lives. It also stimulated Jewish migration to Palestine, which accelerated after the conclusion of the Second World War.

Another important event for the Jews was the UN resolution on 29 November 1947, according to which the Palestine Mandate was partitioned into two parts for the state of Israel and Palestine respectively.³⁴⁴ It became the legitimate basis for Israel to exist and fight for its security. A large number of Palestinians also departed the territory on the expectation that Arab armies would crash the new Jewish state.

A small Jewish population had continued to exist in Palestine under the Ottoman Empire, and then under British rule of the Palestine Mandate from the end of the First World War to the late 1940s. For the new Jewish state, their war of Independence was fought and they succeeded in establishing Israel. Indeed, an armed resistance was mounted against the British, including the operation of terrorist organisations like the Irgun and the Stern Gang. As a result of culminating problems, the British withdrew from Palestine.

The establishment of the Jewish state in Palestine, which Palestinian Arabs regarded as their territory, was totally unacceptable to them. Immediately after the ending of British mandate in Palestine, countries from the Arab League launched a war and aimed to destroy Israel. However, the energetic Jewish forces won the war and obtained another 2,500 square miles of Arab land allocated by the UN resolution,

³⁴² Alan Dowty, 'Israel's First Fifty Years', *Current History*, January 1998, p. 26.

³⁴³ Chaim Herzog, *The Arab-Israeli Wars: War and Peace in the Middle East*, London: Arms and Armour Press, 1982, p. 11.

³⁴⁴ Lester A. Sobel and Hal Kosut, *Palestinian Impasse: Arab Guerrillas & International Terror*, New York: Facts on File, 1977, p. 4.

adding its total land area to 77% of pre-1948 Palestine.³⁴⁵ Inspired by the victory and increased national strength, Israel's requirement for more land for settlements kept growing in the subsequent decades, with further immigration. In 1956 and 1967 Israel fought two wars against neighbouring Arab countries. The 1956 war involved major international tension in the form of the Suez crisis, when Britain and France mounted military operations to prevent Egypt from taking over the Suez Canal. They were compelled to abandon these efforts by Russia and the United States. Through the 1967 war, Israel occupied the rest of the old territory of Palestine (including the West Bank, the Gaza Strip and East Jerusalem), the Sinai Peninsula, and the Golan Heights.³⁴⁶ Although in the 1973 Yom Kippur War, Israel defeated the Arab countries once again, the initial successful attacks considerably shocked Israel and brought realisation that continued expansion and confrontation with major bordering Arab states was not conducive to Israel's security.

A turning point in Israeli history came in 1979, when Israel signed a peace treaty with Egypt. Under the treaty, Israel returned Sinai to Egypt in exchange for a secure southern border and Egyptian concessions with regard to the West Bank and Gaza Strip issues.³⁴⁷ The disappearance of the Egyptian threat arguably meant that the possibility of a major Arab invasion became minimal. Without the cooperation of Egypt, Syria could not launch a major attack against Israel itself; nor could Jordan. It also meant the major challenge to Israel security has shifted from the Arab bordering countries to the Palestinian inhabitants of the occupied territories themselves. The objective of Israel was transferred from defending the existence of Israel, to suppressing the Palestinian resistance and assimilating occupied Arab land through Israeli settlements. Through the years, Israel has tried various strategies, including military suppression, economic integration, self-rule, and peace talks, to stabilize its expansion of settlements, but in vain.

To Israel, Palestinian economic power was a weak element. Under the occupation, it was unlikely that foreign investment would be attracted to the unstable West Bank

³⁴⁵ Avi Plascov, *A Palestinian States? Examining the Alternatives*, Adelphi Papers No. 163, London: The International Institute for Strategic Studies, 1981, p. 3.

³⁴⁶ Ian J. Bickerton and M. N. Pearson, *The Arab-Israeli Conflict: A History*, Melbourne: Longman, 1993, p. 132.

³⁴⁷ Bickerton and Pearson, p. 158.

and the Gaza Strip. The main Israeli economic policy in the areas was that: 'the expropriation of land and water, the integration of Palestinian labour into the lowest rungs of the Israeli workforce, [and] the restructuring of Palestinian trade toward Israel.'³⁴⁸ The policy inevitably resulted in the dependence of Palestinian economic activity on Israel, especially in terms of trade and labour. By 1987, more than 70% of Gaza's labour force was working inside Israel and 90% of its trade was confined to Israel. The extent of control was also clearly demonstrated in the Israeli closure of the Occupied Territories from 1993 to 1995. During the time of total closure, unemployment rates climbed to 70% in the Gaza Strip and 50% in the West Bank.³⁴⁹ This weak Israel-controlled economy on the one hand assists Israel to control the territories to some extent, but on the other hand it adds sizeable social problems. The low level of economic activity and dependent status was a fertile ground for existing anti-Jewish sentiment among the Palestinians, giving rise to violent expression by terrorist groups.

In the diplomatic area, Palestinians are able to win support from many countries in the international community. Based on ethnic and religious linkage, Arab countries provide Palestinians with considerable support for their struggle to recover lost land. After their direct military support failed repeatedly in 1948, 1956, 1967, and 1973, Arab countries turned to economic and diplomatic area. They spoke for Palestinian rights in the UN, provided financial support to Palestinian resistance movement (including terrorist groups). They refused to recognise Israel and imposed oil and economic sanction against Israel. Most importantly, oil-rich Arab countries were able to use oil, to a certain extent, as a weapon to motivate international support.

On 17 October 1973, the organization of Arab Petroleum Exporting Countries (OPEC) announced a 5% cutback of its oil production every month and a 17% increase of oil price. From October 1973 to March 1974, led by Saudi Arabia, Arab countries announced an oil embargo against the US and several other countries in reaction to the increase of US military aid to Israel in the Yom Kippur War.³⁵⁰ The embargo created an international energy crisis and cost the US 500,000 jobs and a

³⁴⁸ Sara Roy, 'The Palestinian Economy after Oslo', *Current History*, January 1998, p. 19.

³⁴⁹ Roy, pp. 19-23.

³⁵⁰ Ray Maghroori and Stephen M. Gorman, *The Yom Kippur War: A Case Study in Crisis Decision-Making in American Foreign Policy*, Washington, DC: University Press of America, 1981, pp. 61-66.

\$10-20 billion economic loss, underlining the critical importance of oil to both national security and economic prosperity.³⁵¹ The impact on other Western countries was also effective. On 6 November 1973, the European Economic Community (EEC) called on Israel to end the territorial occupation and take into account the legitimate rights of Palestinian refugees. In December, Japan followed the move by calling Israel's total withdrawal from Arab territories.³⁵² Although the oil weapon was powerful, it was also a double-edged sword. It hurt the customers but harmed the producers as well. In the following year, the Arab countries lost the motivation to use it again.

The diplomatic support of the international community is also indispensable to Palestinians. During the long conflict, the question of Israel's occupation of the West Bank and Gaza Strip and Arab countries' diplomatic efforts gradually increased international support for the Palestinians. Most UN resolutions were in the Palestinian's favour. Among them, Resolution 242 has become the legal basis for Palestinian struggle for their right.³⁵³ For decades, the international consensus for peace in the Middle East has involved the withdrawal of Israeli forces to within Israel's internationally recognized boundaries, in return for security guarantees from Israel's neighbours, the establishment of a Palestine state in the West Bank and Gaza, and special status for a shared Jerusalem.³⁵⁴ Recently, UN Secretary General Kofi Annan said, 'The whole world is demanding that Israel withdraw [from occupied Palestinian territories]. I don't think whole world can be wrong.'³⁵⁵ This attitude plays a very important role in restraining Israel's annexation of Palestinian land. However, neither Arab nor non-Arab countries' support have led to ending Israel's occupation policy. Israel has been able to resist these pressures. To Israel, the most direct challenge to its security and occupation has been the Palestinians' intifadas.

³⁵¹ Bickerton and Pearson, p. 149

³⁵² Ibid.

³⁵³ UN Security Council, 'Security Council Resolution 242 (1967)', <http://www.palestine-net.com/politics/unares.html>, (July 20, 2003).

³⁵⁴ Stephen Zunes, 'Hazardous Hegemony: The United States in the Middle East', *Current History*, January 1997, p. 22.

³⁵⁵ Mark Weber, 'A look at the 'Powerful Jewish Lobby'', <http://www.ihr.org/leaflets/jewishlobby.html>, (28 July 2003).

The first intifada got its momentum in September 1987. The term intifada means “spasm” or “frisson”, a rather mild way of describing an event that has proved so bloody and destructive.³⁵⁶ After the Palestine Liberation Organisation (PLO) was expelled from Lebanon to Tunis in 1982, there was left a power vacuum in the West Bank and Gaza Strip. The violence against Israel was not an organised one from the very beginning. Once the Palestinian revolt broke out, Israel put it down with force. But the use of force further angered many Palestinians. In the second intifada, which erupted in September 2000, over 1,140 Palestinians and over 400 Israelis had been killed by April 2002.³⁵⁷ This continues, very messily, today.

The Intifada includes street violence and terrorist attacks. Relatively, the terrorist attack inside Israel or against settlers in occupied territories is more frightening to Israelis and more difficult to defend against, because the Israeli settlements in the West Bank and Gaza are located near Palestinian towns and villages. The situation in East Jerusalem is complicated as well. Furthermore, the close economic relationship between Israel and the Palestinians make it nearly impossible for Israel to stop Palestinians entering Israel. There are thousands of Palestinians as a labour force working in Israel. Closing the border can reduce the possibility of suicide bombers entering Israel, but the unemployment resulting from it causes trouble in occupied territories. To some extent, it is impossible for the Israeli to use force to kill all attackers or stop them by more relentless revenges. As Ely Karmon of Israel’s International Policy Institute for Counter-Terrorism said, ‘A human bomb is like a very sophisticated guided missile.’ But no multibillion-dollar antimissile system can stop it.³⁵⁸ This situation is similar to that stalemate between the US and North Vietnam in the Vietnam War, with no sides could win a decisive victory. The suicide bomb attacks and violence will stop only when the Palestinian extremists lose their will to conduct indiscriminate bombings against civilians. This will be the Palestinian centre of gravity.

The Palestinians’ resolve to resist Israel occupation is the combination of Palestinian social and political power. It is the result of the interaction of perceived hopelessness

³⁵⁶ Pelletiere, p. 7.

³⁵⁷ Jerusalem and Ramallah, ‘Carnage in Israel, Conquest in Palestine’, *The Economist*, 6 April 2002, p. 23.

³⁵⁸ Christopher Dickey, ‘Inside Suicide In.’, *Newsweek*, 16 April 2002, p. 62.

and unfairness, plus the religious extremism of Muslim fundamentalism. The sense of hopelessness gradually increased during the long period of failure in the struggle against Israel. In the Israeli War of Independence, many Palestinians were told to leave their land for several weeks, so that Arab troops could free their hands in driving the Jews into sea.³⁵⁹ The Arab military forces failed dismally. However, to some Palestinians that was farewell to their homeland. In the following years, Palestinian refugees kept hoping some day the Arab countries could recover the land for them. But time again and again, their hopes were frustrated. The performance of Arab forces was still disappointing in the 1956 and 1967 Wars. The Israeli Defence Forces' superiority seemed unshakable. Some hope arose in the Yom Kippur War, when the initial Arab successes allowed Arabs to regain some of their confidence. But the outcome was in the end worse for the Palestinians. Taking advantage of the outcome of the war, the largest Arab country in fighting Israel, Egypt, signed a peace treaty with Israel, leaving the Palestinian issues unsolved.³⁶⁰

After the hope of recovering lost land by outside Arab forces vanished, the Palestinians continued to fight against Israel. The defeat of the PLO in 1982 in Lebanon not only deprived the PLO of the military option, but also seriously compromised its credibility, because its influence over Palestinians in the Occupied Territories was weakened. Furthermore, the imperative of Palestine issue decreased for Arab countries. In 1987, when Arab summit convened in Amman, the Palestine problem was virtually sidelined. Palestinians were shocked to find themselves ignored, if not abandoned.³⁶¹ This was part of the reason that why the first intifada broke out in September 1987.

The 1991 Gulf crisis was a double-sided sword for Palestinians. On 12 August, in order to release the diplomatic pressure, Saddam Hussein attempted to link the withdrawal of Iraqi forces from Kuwait with a Syrian withdrawal from Lebanon, and an Israeli withdrawal from the West Bank, Gaza, Golan Heights, and Lebanon.³⁶² The linkage was in fact impossible. Many Palestinians chose to support Saddam, even it

³⁵⁹ Bickerton and Pearson, pp. 109-110.

³⁶⁰ Bickerton and Pearson, p. 156.

³⁶¹ Pelletiere, pp. 9-10.

³⁶² Ritchie Ovendale, 'A Chronology of the Gulf Crisis', in *Islamic Fundamentalisms and the Gulf Crisis*, James Piscatori (ed.), Chicago: American Academy of Arts and Sciences, 1991, p. 211.

was only a kind of moral support. Two old Chinese idioms called ‘*Ji Bu Ze Shi*’³⁶³ and ‘*Yin Jiu Zhi Ke*’³⁶⁴ partly explained this bitter strategic choice of Palestinians. The price Palestinians had to pay was high. The most direct one was the loss of financial support from Kuwait and Saudi Arabia, and the termination of remittance income from Palestinians living in the Gulf.³⁶⁵

Nevertheless, the Gulf Crisis made the Western powers, especially the United States see the need to open Palestinian and Israeli peace talks. In October 1991, the peace negotiations opened in Madrid on the basis of UN Resolutions 242 and 338.³⁶⁶ The Palestinian discovered that their interpretation of the Palestine question, based largely on the conventions of international law, was not the same that Israel was willing to apply. Israeli Prime Minister Shamir stuck to his plan, in which Palestinians were to be given a very limited self-rule, with Israel retaining full control of security and foreign affairs.³⁶⁷ To the Palestinian side, this was totally unacceptable. The negotiations, which continued to late 1992, were doomed to fail in the end.

Palestinian hopes were revived after Yitzhak Rabin was elected as Israeli Prime Minister in 1992. Rabin’s preparedness to make peace with Palestine led to the Oslo peace talks. It was the first time that the two sides sat alone to make their future. After months of secret negotiations, the two sides signed the Declaration of Principles (DOP) in September 1993. The historical White House handshake between Rabin and Yasser Arafat let the world see the aurora of real peace in the Middle East.³⁶⁸ On the Palestinian side, it was assumed that DOP meant for eventual Palestinian statehood. It was on this basis that Arafat mobilised support for his policy in the face of opposition criticism of what the text of the DOP really meant.³⁶⁹ Some positive signs, especially the end of the seven years intifada, appeared during the peace making.³⁷⁰ As the result

³⁶³ Meaning a person is so hungry that he eats whatever he finds. No matter it is good or not.

³⁶⁴ The tone of the idiom is stronger than the former. Meaning a person is so thirsty that he drinks *Jiu*, the most powerful poison in ancient China. It is often used to criticise a very bad choice.

³⁶⁵ Roy, p. 20.

³⁶⁶ Robert D. Schulzinger, *American Diplomacy in the Twentieth Century*, New York: Oxford University Press, 1994, p. 375.

³⁶⁷ Bickerton and Pearson, p. 192.

³⁶⁸ Uri Savir, *The Process: 1,100 Days That Changed the Middle East*, New York: Random House, 1998, pp. 77-78.

³⁶⁹ Mark A. Heller, ‘Towards a Palestinian State’, *Survival*, Vol. 39, Summer 1997, p. 7.

³⁷⁰ Reuters, *The Israeli-Palestinian Conflict: Crisis in the Middle East*, Upper Saddle River, N.J.: Prentice Hall, 2002, p. 12.

of efforts of parties involved, on 4 May 1994 the two sides signed Gaza-Jericho Agreement. On May 25, the Israeli Defence Force (IDF) withdrew from Gaza and Jericho, ending its twenty-seven years of occupation. On July 1, Yasser Arafat entered the Gaza Strip and started Palestine self-rule.³⁷¹

Every advance seemed to add further hope to the Palestinians. However, their aspirations were too high. The Israelis were not going to give up too much. Naseer Aruri, Chancellor Professor of Political Science at the University of Massachusetts was very critical about Oslo agreement.³⁷² He argued that Rabin's concept of security would enable Israel to keep the occupation intact, reorganize it, and repackage it under a new label. The agreement was, in effect, predicated on the assumption that the Palestinians were the party that had done wrong and must apologize for resistance to a military occupation. The withdrawal was only referred to the Gaza Strip and Jericho, but not to the West Bank. The Gaza Strip was already packed with more than one million Palestinians and 4,000 Jews. The potentiality for new settlements is minimal. It is the West Bank that can provide reasonable room. Giving up the troubled Gaza Strip could be regarded as Israel's strategy to release its security burden and international pressure.

As the peace process slowly advanced, the Israeli Government faced harder and harder opposition at home. When Israeli Knesset ratified the Interim Agreement (Oslo II), 10,000 people demonstrated in Zion Square against the Agreement. Rabin was depicted as a 'traitor', 'murderer', 'Nazi', and 'illegal prime minister'.³⁷³ According to this Interim Agreement, the West Bank was divided into three areas. In Area A, including all cities except Hebron, the Palestinian Authority had full responsibility for internal security, public order, and civil affairs. Area B included Hebron and three hundred villages, in which the Palestinian Authority maintained public order, while Israel retained overriding security responsibility to protect the settlements. About 70% of the West Bank was designated as Area C, with Israel retaining full responsibility. Arguably, in this agreement, Israel did not made many concessions. It might be more convenient for Israel to construct new settlements. But even these concessions were

³⁷¹ Savir, pp. 139-140.

³⁷² Naseer Aruri, 'Oslo's Muddled Peace', *Current History*, January 1998, pp. 8-9.

³⁷³ Savir, p. 248.

thought too much by many people in Israel. The assassination of Rabin in November 1995 precluded an even harder road ahead for both sides.³⁷⁴ After the hawkish Netanyahu took office, the peace process nearly came to a stalemate.³⁷⁵

In the following years, Palestinian extremist violence renewed. But this in turn was then used by the Israeli Government for delaying troop withdrawals. The Hebron Agreement stipulated that Palestinian Authority had to convince Israel that it was capable and willing to comply with its security responsibilities, before Israel was obliged to transfer additional areas of the West Bank to Palestinian jurisdiction.³⁷⁶

Based on the Hebron Agreement, the Israeli cabinet approved a three-stage withdrawal from some parts of the West Bank in November 1997. The proposal had not specified land areas, but had the pre-condition of Palestinian cooperation in stopping violence. The Palestinians treated it as a trial. Even in Israel, the *Ma'ariv* newspaper pointed out that the intention was to destroy the Oslo Accords. *Ha'aretz* argued that its goal was to reduce the Oslo Accords to rubble and pave the way for a total severing of ties with the Palestinians.³⁷⁷

Israel's policy towards peace was changed after Ehud Barak was elected as Prime Minister in 1999. During Camp David negotiations, 'Barak moved beyond any previous Israeli prime minister in agreeing to eventually withdraw from 90% of the West Bank and in offering Palestinians control of some East Jerusalem neighbourhoods.'³⁷⁸ However, the peace process failed, because the two sides were deeply divided in the issue of Haram al-Sharif to Muslim or Temple Mount to Jews, in Jerusalem. The frustration and disappointment resulted from this failure arguably reached its highest point, since it was the closest that the Palestinians came to a final peace. Ironically, it was the Palestinians who sabotaged Barak's efforts.

³⁷⁴ Savir, pp. 256-265.

³⁷⁵ Augustus Richard Norton, 'Clinton's Middle East legacy: A Scuttled Peace?', *Current History*, January 1998, p. 2.

³⁷⁶ Aruri, p. 11.

³⁷⁷ Norton, 1998, p. 8.

³⁷⁸ Shibley Telhami, 'Camp David II: Assumptions and Consequences', *Current History*, January 2001, p. 11.

The second intifada broke out in September 2000 as the direct reaction to Israel's right wing Likud party chief Ariel Sharon's tour to the Temple Mount (Haram al-Sharif). A deeper reason was the explosion of long-simmering discontent with the slow peace process. Seven years passed since the famous handshake in 1993, with various agreements, namely Oslo I, Gaza – Jericho, Oslo II, Hebron, and the two Wyes, but the Palestinians and Israelis had seen few tangible benefits of peace. Israel gave back 13.1% of the West Bank but nothing in East Jerusalem. The construction of new settlements had not stopped after the DOP. Even during Barak time, when the two sides were closest to an agreement, the rate of settlement building increased by 51%.³⁷⁹

In Gaza, about 4,000 Jews enjoy one-third of the land, while more than one million Palestinians live on the rest. In Hebron, with some 400 Jewish settlers, around 20,000 Palestinians in the nearby neighbourhoods live under military occupation. In the rest of the West Bank, any travel outside specific urban areas has to have Israeli permission. In Jerusalem, a large part of the Palestinian population is denied free access to Muslim holy places.³⁸⁰

The balance between Israel and the Palestinians is seriously asymmetric. Israel is too powerful and the Palestinians are too weak, economically, militarily, and politically. Although to some extent, the Palestinians have to face the terrible reality, considering the historical facts and their weak position, the feeling of unfairness, weakness, helplessness, and being abandoned, is hard to be removed and can easily turn into deep hatred against Israel. Once this hatred is linked with religious passion, it could be easily used by extremist groups (including terrorist groups) in motivating people to join their Islamic jihad against Israel.

Hamas, or the Islamic Resistance Movement was founded in 1987 on the base of Society of Muslim Brothers, a traditional well-know Islamic organization in the Middle East. During the initial stage, the Muslim Brotherhood established a religious centre in the Gaza, from which, it conducted a number of charitable activities, such as

³⁷⁹ Glenn E. Robinson, 'Israel and the Palestinians: The Bitter Fruits of Hegemonic Peace', *Current History*, January 2001, pp. 15-16.

³⁸⁰ Robinson, pp. 15-17.

running hospitals and schools, and providing funds for mosques. Hamas became active and popular in the first intifada, because Hamas believed that it was time to use their religious influence to motivate people to join their organisation. Its status was further enhanced among Palestinians by its strong position toward Haram al Sharif crisis in 1990, in which Israeli troops killed 21 Muslims who rush to Al Aqsa to prevent a Jewish group from laying a cornerstone in the mosque area.³⁸¹

Hamas has adopted an extremist position toward the occupation, looking on it as an abomination, which they were bound to oppose on religious grounds. Hamas does not recognise the right of Israel to exist. Hamas leader Sheik Ahmad Yasin described the conflict as the 'the combat between good and evil.' In the Covenant of Hamas, Hamas defined itself as 'a distinguished Palestinian movement, whose allegiance is to Allah, and whose way of life is Islam.' Its objective is to 'raise the banner of Allah over every inch of Palestine', because 'the land of Palestine is an Islamic Waqf consecrated for future Moslem generations until Judgment Day... No one can renounce it or any part, or abandon it or any part of it. The day the enemies usurp part of Moslem land, Jihad becomes the individual duty of every Moslem. In the face of Jews' usurpation, it is compulsory that the banner of Jihad be raised.'³⁸² Hamas claimed that the Prophet had enjoined Muslims to act independently in the Koran. Muslims must accept martyrdom; the religion was nourished on the blood of martyrs.

Suicide bombing and the killing of Israeli citizens have become fashionable. A successful suicide bomber is well respected by numbers of Palestinians, especially youth. Muhammad Abu Rukbah, a principal of an elementary school in Gaza says, "They [children] want to be martyrs even if they don't know the meaning of word. They see the images on TV, the posters in the streets, the honour of the martyrs' families, and they want that kind of honour for themselves, for their families."³⁸³ It is a strange but bitter situation among Palestinians that many young people wake up every morning with more reason to die than to live. A snapshot of 149 suicide bombers who have tried to attack Israelis shows that nearly 67% of them were

³⁸¹ Jerusalemites, 'The Massacre of Al-Aqsa Mosque - 08.10.1990' <http://www.jerusalemmites.org/crimes/massacres/14.htm>, (5 September 2003).

³⁸² Hamas, 'The Covenant of the Hamas', <http://www.fas.org/irp/world/para/docs/880818a.htm>, (15 July, 2003).

³⁸³ Christopher Dickey, 'Inside Suicide In.', *Newsweek*, 16 April 2002, p. 61.

between the ages of 17 and 23. This means that their childhood was spent in the years of the first intifada. If the first intifada has played an important role in the formulation of the philosophy of current suicide bombers, who can ensure that the second intifada would not produce even more nihilistically inclined young people prepared to undertake indiscriminate killing?

Like Hamas, all those groups, which are active in attacking Israelis in the second intifada, have strong religious affiliations. The Al-Aqsa Martyrs Brigade is a fairly new established Islamic organisation, an off-shoot of the PLO. Its aim is to drive the Israeli military and settlers from the West Bank, Gaza Strip, and Jerusalem and to establish a Palestinian state.³⁸⁴ The group tries to motivate people to join their organised Jihad by referring its name to the al-Aqsa Mosque and the Palestinians killed in the current intifada. Islamic Jihad demonstrates even more clearly that their way of fighting Israelis is Islamic Jihad. The phenomenon of suicide bombers attack shows how effectively these groups can mobilise young Palestinians to join the Jihad.

During the conflict over decades, Israel has tried to ease Palestinians' hatred by economic integration, the prospect of self-rule, and peace talks. But the aspiration for more land for settlements forces the Israelis to rely on military power. Israel had no choice when its existence was threatened by Arab armies before the end of the Yom Kippur War. But the continuing low level strife implies that military power alone is not a suitable approach in dealing with the Palestinian uprisings.

It could be argued that the choice for Israel is very limited. The Jordanian option (returning the West Bank to Jordan) is gone forever.³⁸⁵ To formally annex the occupied land is impossible, because first, the West Bank, Gaza, and East Jerusalem are recognized by the international community, including Israel itself, as occupied Palestinian territories. Second, the Palestinians may continue their uprisings, so long as they are inclined to do so. Thirdly, there are complications likely to arise from a

³⁸⁴ United States Department of State, 'Al-Aqsa Martyrs Brigade', <http://library.nps.navy.mil/home/tgp/aqsa.htm>, (15 July, 2003).

³⁸⁵ The option was based on the history that Palestine and Jordan [Transjordan] belonged to British mandate Palestine, before Churchill divided it in 1921. The option was to return part of Arab land to Jordan. Therefore, there would be no Palestine state.

Palestinian state and an Israeli state alongside each other, if compromise cannot be reached.

To maintain the status quo means continuing violence and insecurity for both Israel and the Palestinians. It is the very situation that Israel wants to change. It seems that the only way for Israel to remove Palestinian hatred is to negotiate a Palestinian state, and that may not be enough. To some extent, Israel might need to adopt a new security concept. The main threat to Israel is not the traditional military threat, but terrorist attacks in the foreseeable future. The centre of gravity of the Palestinians is the combination of its political and social element of power, a strong national will to fight rooted from hatred and religious passion.

Israel's centre of gravity

Before 1974 PLO was formally accepted at Arab summit conference at Rabat, the Palestinians did not have an independent political entity to express their political will. For a long time they were represented by Transjordan [Jordan]. In 1988, the Palestinian national objective openly changed from establishing a Palestinian state on the former territory known as Palestine, to setting up a state on the land stipulated by UN Resolution 242 during their long time struggle against Israel.³⁸⁶

Israel has a technologically advanced economy. Despite limited natural resources, Israel has performed well in developing its agriculture and industries. In 1999, its GDP was \$105.4 billion. GDP per capita is \$18,300. There are no people living below poverty line.³⁸⁷ It depends on imports of crude oil, grains, raw materials, and military equipment. The influence of the Arab countries' trade and oil embargo against Israel are limited. It seems that the impact caused by the Palestinian uprisings in the form of terrorist activity are more prominent. For example, the second intifada and the global economic slowdown have plunged Israel into its third year of recession. In 1999, Israel's economic growth rate was 2.1%, but it dropped to -0.9% and -1% in 2001

³⁸⁶ Yasser Arafat's speech to the United Nations General Assembly, Geneva, 13 December 1998, in Bickerton and Pearson, 1996, pp. 203-204.

³⁸⁷ Israel Economy 2000, http://www.photius.com/wfb2000/countries/israel/israel_economy.html, (23 July, 2003).

and 2002 respectively.³⁸⁸ At the meantime, military spending has increased by two billion dollars a year since the *intifada* began.³⁸⁹ In March 2003, Israel asked the US to offer \$10 billion aid to bail it out of the worst economic crisis in its history. If this situation continued, it might reduce Israel's attraction to outside Jews to immigrate to Israel, but it is far from forcing Israel to end the occupation.

Israel has established its military superiority in its long period of conflicts with its Arab neighbours. Israel not only has advanced military industries, which can provide a considerable part of defence needs, but also well-trained personnel and effective national mobilisation system. Moreover, Israel is widely believed to be a nuclear power.³⁹⁰ Suicide bomber attacks are no serious direct threat to Israel Defense Force (IDF). Unlike in Vietnam, where the North and the Vietcong's protracted resistance successfully ended the enemy's occupation by draining the enemy's will to fight, this will not have this effect on Israel. The Palestinians' resistance seems not strong enough to dismiss Israel's will to continue the occupation.

Israel has a strong national will to occupy areas of the West Bank, regardless of international criticism and Palestinian resistance, because the Government see the need for settlement and people support the Government's decision. From the Government perspective, the most important motivation is that Israel needs Palestinian land for new settlers. Israel's population in 2000 was about 5,800,000. Among 4.6 million Jews, a significant number are new settlers. During the period 1989-99, immigrants from the former Soviet Union were about 750,000.³⁹¹ Without these people, the demographic make-up of Israel might be quite different. Perhaps more importantly, settlements could provide about thirty miles of strategic depth in case of a military attack, which allows Israel has time to mobilise its reserves. Israel thinks 'the 1967 borders are simply indefensible because they would leave Israel with a national depth as small as 8 miles between Haifa and Tel Aviv and would leave its

³⁸⁸ BBC News, 'Doubts over US Aid to Israel', <http://news.bbc.co.uk/2/hi/business/2867619.stm>, (23 July, 2003).

³⁸⁹ Michael Codner, 'RUSI Index of Martial Potency 2002', *RUSI Journal*, December 2002, p. 17.

³⁹⁰ Ian o. Lesser, Bruce R. Nardulli, and Lory A. Arghavan, 'Sources of Conflict in the Greater Middle East', in *Sources of Conflict in the 21st Century: Regional Futures and U.S. Strategy*, Zalmay Khalilzad and Ian O. Lesser (ed.), Santa Monica, CA: Rand, 1998, p. 220.

³⁹¹ Israel Economy 2000, http://www.photius.com/wfb2000/countries/israel/israel_economy.html, (23 July, 2003).

only international airport highly vulnerable to mortar and other attacks.³⁹² This is, after all, a reasonable argument over a limited area. Thirdly, new comers provide additional available military manpower and the scientific and professional expertise for the Israeli economy.

The domestic support for the government policy in occupation is relatively strong. There have been quite a number of protests against the peace process, a few occasions of support for the peace process, but no reasonable scale protests against occupation. In 1992, five years after the start of first intifada, Israelis selected more moderate Rabin to replace stubborn Shamir. Rabin started the peace, but was assassinated by a Jewish extremist, because Rabin's concessions seemed unacceptable to some Israelis. So, they chose hawkish Netanyahu. Three years later, the slowing down peace process and increasing violence persuaded them to vote for Barak, who was willing to make the biggest concessions for peace.³⁹³ Once again, the concessions induced domestic dissatisfaction. Then in 2001, Israelis elected Sharon, a former hard line military commander and politician as their Prime Minister. His provocative visit to Temple Mount was regarded as the immediate direct cause of the second intifada. It seems that most Israelis support the peace process, but do not want to make enough concessions. Palestinian suicide attacks in Israel have not caused serious panic within Israel. The citizens are strong minded and accustomed to this kind of life. In fact, suicide bombings strengthen the hard of Israeli hard-liners.

Israel's strategic culture is also an important contributor to long time occupation. In history, the Jewish community was relatively weak for a long time, though they were quite successful individually. Jews were persecuted for long periods in various countries. The persecution of the Jews reached its highest point with Hitler's 'final solution' to eliminate the Jewish people. The Jewish experience in Palestine was bitter as well. When they declared the establishment of Israel, the Arabs wanted to wipe them out. These experiences play a critical role in modelling three important aspects of Israel's strategic culture. First is the supreme importance of national security. Jews have to have an absolute security even at the expense of others, because they have been ill treated before. In fact, Israel cannot afford to lose a war even once. Second is

³⁹² Mortimer B. Zuckerman, 'Israel's righteous fight', *U.S. News & World Report*, 15 April 2002, p. 84.

³⁹³ Don Peretz and 'Barak's Israel', *Current History*, January 2001, pp. 21-22.

the highly valuing the role of military power. The helplessness in the past and the present superiority all demonstrated the importance of military power. Third is high endurance of danger.

If only considering the competition between the two sides, it could be argued that Palestinians had not had the chance to get back their land. Israel not only has superior national strength, but also has undiminished will to use this power to continue its occupation of the West Bank. But when observing the conflict from a broader view, if the American support disappeared, Israel's superiority might become questionable.

The US support is essential. Diplomatically, the US has used its veto power to render the UN Security Council to pass any serious resolutions against Israel. Moreover, the US's neglecting of the UN resolutions makes all of them meaningless. For example, the UN Resolution in 1975 urging member countries to stop military and economic aid became useless, when the US did the opposite by increasing its military and economic aid to Israel. Economically, from 1949 to 2002, the estimated US aid to Israel was about \$87 billion. Since 1985, the US has provided \$3 billion in grants annually to Israel. Since 1976, Israel has been the largest annual recipient of US foreign assistance, and is the largest cumulative recipient since the World War II.³⁹⁴ In the military area, the US provides large parts of Israel's defence needs, especially high-tech weapons, making Israel the most powerful country in the Middle East. More importantly, the US security insurance dismisses any total defeat of Israel. In the Yom Kippur War, when Israel's violation of the UN Resolution induced a strong Soviet Union reaction, the US immediately alerted its military forces around the globe to deter any Soviet move.³⁹⁵

It would be very difficult for the Israel to stand international pressure, if it lost the US support. Israel's economy is not self-sufficient, relying on foreign assistance and borrowing to maintain its economy.³⁹⁶ Israel lacks of important natural resources, such as oil, which are essential to the economic development. If the UN resolution

³⁹⁴ Clyde R. Mark, *Issue Brief for Congress: Israel: U.S. Foreign Assistance*, IB85066, Washington, DC: Foreign Affairs, Defense, and Trade Division, 2002, CRS-13.

³⁹⁵ Ray Maghroori and Stephen M. Gorman, *The Yom Kippur War: A Case Study in Crisis Decision-Making in American Foreign Policy*, Washington, DC: University Press of America, 1981, pp. 43-45.

³⁹⁶ Mark, CRS.

were observed, Israel's economy would suffer a lot, which would reduce Israel's attraction to the potential Jewish immigrants. Unlike Iraq, who was able to survive by smuggling necessities, Israel's Arab neighbours might be willing to stop illegal goods to flow into Israel from their lands. This would further increase Israel's difficulties under the UN sanctions.

Not surprisingly, both Israel and Palestine understand the US's critical role in solving the conflict. Israel's strategy in defending its centre of gravity is to keep the United States as far from the negotiating table as possible.³⁹⁷ The Palestinians' strategy is exactly the opposite. The recent Palestinian concession on the Abbas issue demonstrated that they understand that only the US can press Israel to make concessions.³⁹⁸ To Palestinians, it is a bitter choice to invite the US as the peace broker, but better than not. They know that the US attitude in the history has always tilted towards Israel. The US current policy is still pro-Israel, and they will not change it in the future, since apart from the two sides' strategic relationship, there is a strong Jewish lobby in the US. Bishop Desmond Tutu, a winner of 1984 Nobel Peace Prize has commented: 'The Israeli government is placed on a pedestal [in the US], and to criticize it is to be immediately dubbed anti-Semitic. People are scared in this country, to say wrong is wrong because the Jewish lobby is powerful – very powerful.'³⁹⁹

It is hard to judge to what extent the Jewish lobby can influence the current peace process. The September 11 terrorists attack against the US has made the Bush Administration to see the urgent need to fight terrorism and solve the Palestine problem. As Tony Blair pointed out in his speech to US Congress: 'This terrorism will not be defeated without peace in the Middle East between Israel and Palestine. Here it is that the poison is incubated. Here it is that extremist is able to confuse in the mind of a frighteningly large number of people... to translate this moreover into a battle between East and West, Muslim, Jew and Christian.'⁴⁰⁰ In order to safeguard its own interests, the US policy makers might impose a higher pressure on Israel. But the

³⁹⁷ Norton, p. 3.

³⁹⁸ Matt Rees, 'Who's the No.1 Palestinian Now?', *Time*, 9 June 2003, pp. 28-29.

³⁹⁹ Mark Weber, 'A look at the 'Powerful Jewish Lobby'',
<http://www.ihr.org/leaflets/jewishlobby.html>, (28 July 2003).

⁴⁰⁰ Simon Jeffery, 'Key quotes: Tony Blair's speech to US Congress',
<http://www.guardian.co.uk/Iraq/Story/0,2763,1000734,00.html>, (29 July 2003).

need might not be high enough to move the US to change its Israel policy fundamentally.

As to the Palestinians, they still lack of leverage to influence Israel's centre of gravity. Their judgement of solving the Palestine problem is central to the US national interest is just an illusion.⁴⁰¹ The 2003 Gulf War has shown that as the only super-power in the world, the US approach to world issue is becoming even more unilateral. The outside influences on the US are limited. Furthermore, the US presidential election is coming. Bush cannot afford to offend the Jewish lobby in the US, when Democrats are attacking him about his reasons for the Iraq War. Therefore, in this asymmetric negotiation, the success largely depends on to what extent Palestinians and Muslims at large can accept an asymmetric peace.

In conclusion, the direct threat of Palestine to Israel's security is the Palestinians' puny military element of power, in the form of terrorist attacks. But the Palestinians' centre of gravity is the combination of its political and social element of power, a strong national will to fight rooted from hatred and religious passion. The long experience of the past and the seemingly hopeless future have produced a generation of hatred and religious passion. Israel's strategy against it is born of error. Using military power to suppress violence for the sake of occupation and settlement building adds to the cycle of hatred. International pressure, although is not strong enough to force Israel to withdraw its troops from occupied territories, limits Israel to only two choices, to negotiate a peace with the Palestinians, or continue facing trouble.

The Palestinians' struggle against Israel is purely asymmetrical. Israel has the superior economy and military power. It also has a strong national will to fight to retain settlements on the West Bank. The Palestinians' protracted violence seems not hard enough to wear down the Israelis. However, Israel's centre of gravity is its diplomatic element of power, the ability to win the US's support. It is the main barrier faced by Palestinians. Without American support, the international pressure against Israel's occupation would become more acute for Israel. But the possibility equals zero. The Jewish lobby in the US is possibly sufficient to prevent this in the foreseeable future.

⁴⁰¹ Yezid Sayigh, 'The Palestinian Strategic Impasse', *Survival*, Winter 2002-03, p. 9.

The US may be the key in the Israel and Palestinian peace process. In the past, the US has tried to help Israel to negotiate a peace with Palestine, but failed. The 9/11 terrorist attacks against the US might have changed America's thinking about the Middle East peace. But the Bush Administration cannot afford to depart too much from the pro-Israel policy. A possible peace settlement is doomed to be an asymmetrical one in favour of Israel. Nevertheless, the asymmetrical peace has to be acceptable to Palestinians.

Chapter Six: Case Study of the 2003 Gulf War



Source: http://www.lib.utexas.edu/maps/cia03/iraq_sm03.gif

Since the end of the Gulf War in 1991, the US and Iraq have been in continued conflict over issues such as weapons of mass destruction (WMD) and the UN sanctions. On 19 March 2003, the US finally launched the long awaited war. During the 43 days' fighting, Iraqis' resistance was weak and ineffective. No serious urban war was fought. The US's strategy of directly moving to control Baghdad was a terrific success, which resulted in the collapse of the regime. On 1 May, the US President Bush formally announced the end of the War.⁴⁰² However, the violence against the US forces has not stopped since then, killing more than sixty US soldiers in about a month. In June, the new US Commander of the Central Command openly admitted that the US is facing guerrilla warfare in Iraq.⁴⁰³ If judged from the point that the American political objective of the war was to overthrow the Saddam Hussein

⁴⁰² Slovakia Bratislava, 'Remarks by the President from the USS Abraham Lincoln', <http://www.usis.sk/cis/cisen051.html>, (3 September 2003).

⁴⁰³ Dawn.com, 'US Troops Facing a Guerrilla war: General Abizaid on Iraq', <http://www.dawn.com/2003/07/18/int2.htm>, (5 September 2003).

regime, the war is clearly over. However, if the American political objective was to set up a pro-US government, the war continues, and the US still has a long way to go. This chapter will use Bush's 1 May 2003 announcement as the cut-off time for major hostilities, and analyse the centre of gravity of both sides. Given the fact that the US had played the most dominant role in the war, the strategic centre of gravity analysis will focus on the interaction between Iraq and the US.

Iraq's centre of gravity

Iraq has been a long time headache for the US. Before the war, the United States' policy towards Iraq could be characterized as containment, by means of the UN economic sanctions and an arms embargo, the UN weapon inspection regime, non-fly zones and limited air strikes. Although Saddam was kept in "a box", he had repeatedly challenged the US and the UN policies. In September 2002, a year after the 11/9 terrorist attacks, which had killed more than four thousands people in the US, the Bush Administration issued its first National Security Strategy, known as the *Bush Doctrine*. The essence of this doctrine was to prevent an enemy state or non-state actors from threatening the US, its allies and friends with weapons of mass destruction (WMD) through pre-emptive use of force.⁴⁰⁴ Iraq thus became the first practical application of the strategy.

The rationale the US had for the war was that Iraq possessed WMD; it was a rogue state and on the Bush Administration's 'axis of evil' list. The Americans believed that Saddam had used WMD against Iran and Iraqi Kurds, and he might use them against the US and its allies, or pass them over to terrorists in the future. Therefore, the US could not, because of the 11/9 lesson, wait for the possibility to materialise. It had to conduct a pre-emptive war to overthrow Saddam. There were other reasons for the invasion, such as the questions of control of Iraq's oil and the promotion of the Western-style democracy in the Middle East using Iraq as an example and as a whip to pressure other countries in the region to conduct political reform. Nevertheless,

⁴⁰⁴ Carlisle Barracks, 'The Bush Doctrine and War with Iraq', *Parameters*, Spring 2003, pp. 4-21. This copy is from the web site: <http://proquest.umi.com/pqdweb?TS=1058148142&RQT=309&CC=2&Dtp=1&Did=000000301391601&Mtd=2&Fmt=3>, through NZDF Defence Library, (14 July 2003).

whatever the US wanted to achieve, the first step was to overthrow the Saddam regime.

To the US and its allies, the role of Iraq's economic element of power, which they had to encounter, was limited in the war. It has affected the US war effort mainly in two respects. One was that Iraq used economic power to draw diplomatic support to prevent the war. Iraq is an oil rich country. During the long time struggle against the US's containment, Iraq had successfully utilized this factor. For example, Saddam had supplied all of Jordan's oil, half of it free and the other half at a significant discount rate.⁴⁰⁵ Motivated by national interest, Iraq's neighbours, Jordan, Syria, Turkey, and even Iran all participated in Iraqi illegal smuggling in varying degrees. Iraq had also established a close economic relationship with three major countries; Russia, France, and China, despite international sanctions. If Iraq was peacefully disarmed and the UN sanctions were lifted, these countries could not only retain their current interests, but also have a great chance to participate in Iraq's reconstruction. If Saddam were overthrown by the US, the economic interests of a number of countries would be significantly affected. For Russia, France, and China, they might lose their billions of dollars of contracts with the Saddam regime, and might not be able to share in future economic opportunities with Iraq. Another consideration was that Saddam might destroy Iraqi oil fields as he had attempted to do to Kuwait's oil fields in 1991. If that had occurred, it would have compounded American difficulties in rebuilding Iraq after the war. So, preservation of the oil fields became one of the objectives of the campaign.⁴⁰⁶

The Iraqi social element of power had played a minor role in defending the Saddam regime. Iraq has a population of about 22,946,000. Ethnically, Arabs account for 77% of the population. Kurds make up 19%. The other ethnic groups make up the remaining 4%. Religiously, 97 % of the population are Muslims, with Shi'a and Sunni comprising 62.5% and 34.5% respectively.⁴⁰⁷ To most Iraqis, it could be said that they

⁴⁰⁵ Kenneth M. Pollack, *The Threatening Storm: The Case for Invading Iraq*, New York: Random House, 2002, p. 194.

⁴⁰⁶ Mark Mazzetti and Kevin Whitelaw, 'On the Road to Baghdad: A Lightning Campaign Yields Early Success, but the Hard Part Is Yet to Come', *U.S. News & World Report*, March 31, 2003, p.17.

⁴⁰⁷ Jane's, 'Jane's Sentinel Security Assessment – The Gulf States – 10', http://www4.janes.com/search97/vs.../iraqs050.htm&collection=current&Prod_Name=GULFS&QueryZip=ira, (5 June 2003).

at least do not like the Americans, while to many it was a matter of outright hatred. The terrible defeat by the US-led coalition in the 1991 Gulf War, the twelve years of containment, humiliation, and hard life all had contributed to the formation of these attitudes toward the US. There are some differences between various groups. The Kurds in certain respects may feel grateful to the US for the safe haven that the US had set up for them in the northern part of Iraq. But they may not be happy with the American arrogance. And perhaps, they may be resentful toward the US, because of the Americans' failure in supporting them in the 1991 uprising and denying their hope for an independent Kurdish state.⁴⁰⁸ The Arabs demonstrated more hatred than the Kurds toward the US, not only because they had suffered more than Kurds in the containment, but also they hated the US's support for Israel. However, in this war, in general, the Shi'ites' resolve to resist the US was mitigated by their hatred toward Saddam.

Saddam's regime was built upon terror and brutal security control. A critical element of Saddam's success in holding power since 1979 has been his ability to develop a network of organisations to support his regime. Saddam built his power on his family, relatives, tribes, and Sunni Muslims, using the more loyal to control the less. He established various security organisations, such as General Intelligence, General Security, Military Security, and Ba'ath Party Security, to find out any opposition against him. These organisations not only monitored their targets, but also kept eyes on each other. The agents and informants were spread all over the country and organisations. Everyone knew there was an eye on him and he might disappear from the world if he became the suspect of the security forces.⁴⁰⁹ A veteran BBC correspondent described the situation as: "Being in Iraq is like creeping around inside someone else's migraine. The fear is so omnipresent you could almost eat it. No one talks."⁴¹⁰ It can be said that no ordinary Iraqi liked to live in this kind of environment. Since the war was short, the patriotism, religious difference, and hatred toward the US was not strong enough to balance a growing dislike of continuing to live under an

⁴⁰⁸ Khidhir Hamza and Jeff Stein, *Saddam's Bombmaker: The Daring Escape of the Man Who Built Iraq's Secret Weapon*, New York: A Touchstone Book, 2001, p. 285.

⁴⁰⁹ Kenneth M. Pollack, *The Threatening Storm: The Case for Invading Iraq*, New York: Random House, 2002, pp. 112-122.

⁴¹⁰ Pollack, p. 122.

oppressive regime, and not strong enough to motivate most Iraqis to fight the US troops.

The dysfunctional situation of Iraqi society meant Saddam had little public support for his war. Before the war, Saddam conducted a presidential election to show his public support. The 100 per cent winning vote supposedly provided an illusion that Iraq people would fight bravely against the coming US invasion.⁴¹¹ It was only an ironic drama. Most people, even Saddam himself did not believe it, otherwise he would not have established so many security organisations to monitor the opposition. The appearance of strong public support was formed by the terror of the regime. Once the war started, the scene changed.

Saddam and his supporters' will to fight was weak as well. Saddam understood that there was a big gap of combat capabilities between his forces and the Coalitions'. The lessons of the 1991 Gulf War were still fresh to him. The formidable appearance of the Iraqi troops was far less substantial in reality, compared to the US-led Coalition forces at that time. Moreover, Saddam was aware of his unstable internal security situation. There were numerous people in Iraq who wanted to kill him. Once the Americans entered Iraq, they might quickly turn to support the Coalition. Therefore, it may have been clear to Saddam that fighting the US meant the end of his rule. His best strategy was to avoid war with the US by diplomatic means. Saddam's war propaganda was merely a posture. The Coalition's crossing of the Iraqi borders compelled the regime to conduct a hopeless war they could not win.

Iraq's diplomatic element of power was strong during the conflict. In 1991, Iraq was very isolated and could only get support from several minor countries. Even a number of Arab nations sent troops to join the US-led coalition forces. Twelve years later, the situation turned to favor Iraq. The anti-war voice beyond the Middle East was much louder than the voice for war. In the UN, three permanent members of the UN Security Council; France, Russia, and China wanted continued weapons inspections, not war. France's clear expression to veto any resolution authorizing using force frustrated the American attempt to get a mandate, thus calling into question the

⁴¹¹ Sameer Yacoub, 'Iraq Declares Saddam Election Winner', <http://www.macon.com/mld/macon/4292206.htm>, (5 September 2003).

legality of hostilities, though the US insisted that UN Resolution 1441 had justified their invasion.⁴¹² In the streets all around the world, millions of people protested the US war. This not only happened in the countries whose governments were against the war effort, but also occurred in those supporting the US war. For example, in Central and Eastern Europe, the 'New Europe' according to Rumsfeld, opinion polls suggested between 70% and 80% of Hungarians, Czechs, and Poles opposed the American war. In Turkey, a US ally, more than 90 percent were against the war.⁴¹³ In Jordan, this figure even increased to 98%.⁴¹⁴

The most important reason for this worldwide consensus was that the US was not apparently able to justify the war to overthrow a foreign government. Although Saddam's government was widely recognized as a cruel regime, it was not the only one around. The Americans said they wanted to liberate the Iraqi people, but many people believed the main US's motivation had to do with oil, because the internal situation in Iraq was much better than that in some countries in Africa.⁴¹⁵ The Coalition claimed Iraq had WMD and threatened the US and world peace, but it could not give clear evidence. Some of the US's core accusations, which were provided by Britain, were copied from a student essay. In the British Government's Iraq's WMD threat analysis document, Britain claimed that Iraq was able to deploy WMD within 45 minutes, but this has been proved largely exaggerated.⁴¹⁶ The US insisted that the UN Resolution 1441 of November 2002, which promised 'serious consequences' if Iraq failed to comply with inspection, already provided the necessary mandate to use of force.⁴¹⁷ However, on the one hand, 'serious consequences' might not explicitly mean the use of force. This was why the UN Security Council was able to pass the Resolution 1441, and why the British Government wanted a second UN resolution. On the other hand, the US and Britain accused Iraq of a 'material breach' of 1441, but the UN inspection teams reported that Iraq was much more cooperative than

⁴¹² James Geary, 'Seven Days in Hell', *Time*, March 24, 2003, pp. 34-35.

⁴¹³ Fareed Zakaria, 'The Arrogant Empire', *Newsweek*, March 25, 2003, pp. 36-38.

⁴¹⁴ Paul Kennedy and Richard Perle, and Joseph S. Nye, Jr, 'The Reluctant Empire: In a Time of Great Consequence', *Brown Journal of World Affairs*, Summer/Fall 2003, p. 16.

⁴¹⁵ Adam Zagorin, 'All about the Oil', *Time*, February 17, 2003, p. 20.

⁴¹⁶ British Government, 'Iraq's Weapon of Mass Destruction: The Assessment of the British Government ("Iraq Dossier")', *Comparative Strategy*, 22:63-108, 2003, p. 65.

⁴¹⁷ Romesh Ratnesar, 'Iraq Diplomacy: Split', *Time*, March 17, 2003, pp. 20-21.

previously, and they had not found any WMD in Iraq, though the inspection teams also expected Iraq to do more.⁴¹⁸

The other reason was the concern of individual countries. Beyond the economic reasons discussed above, there were still deep political and security considerations. To certain major countries, notably Russia, France, and China, if they could not persuade the US to act within the UN framework, the UN's credit would be seriously damaged, and the US's behavior in the future might become more unilateral. This was contrary to their hopes for a multipolar rather than a unipolar world. An increasingly militant super-power may not be good for international security. As French President Jacques Chirac pointed out, 'any community with only one dominant power is always a dangerous one and provokes reactions. That's why I favor a multipolar world.'⁴¹⁹ The regional countries perceived the US position as being an imminent threat to their national security. Syria and Iran had been defined as 'rogue nations' and part of the 'axis of evil', accused of supporting terrorism and developing WMD. They had no reason to believe they would be not the next for American direct action, since they apparently satisfied all the qualifications of US intervention.⁴²⁰ Turkey had no worry about its regime; but Ankara feared for any extra muscle given to Kurdish autonomy, which might inflame similar aspirations among Turkey's own troubling Kurdish community.⁴²¹ Saudi Arabia had similar worries. Saudi Arabia is a big obstacle to the US's ambition to democratizing the Middle East. It is the largest world oil producer and has direct connections with the 9/11 terrorist attacks, simply by virtue of the number of Saudi nationals among the terrorists. Weak countries out of the region also feared that they could become the victims of pre-emptive war some time in the future.

Therefore, the forces opposing the US's move towards war were strong. The need for the US to bypass opposition within the UN materially detracted from the legality of mounting an interventionist military campaign. In the field, Saudi Arabia and Turkey's refusal to allow the US to launch ground attacks from their territories thus compelled the US to change its military plan and face increased operational difficulties. However, these were not strong enough to halt the operations. As a

⁴¹⁸ CNN.COM, 'U.N. Report Reinforces Security Council Divisions', February 14, 2003.

⁴¹⁹ Time interview with French President Jacques Chirac, *Time*, February 24, 2003, pp. 28-29.

⁴²⁰ Romesh Ratnesar, 'Next Stop: Syrai?', *Time*, April 28, 2003, pp. 30-32.

⁴²¹ S. Ulph, 'Iraq: The View from the Arab World', *Islamic Affairs Analyst*, April 2002, pp. 11-12.

British official said, "It's always been our position, whether it's one, two, three vetoes or however many there are... it is not going to stop us."⁴²² Once the war started, the pragmatic consideration of national interests immediately motivated most countries to lower their anti-war voice, expressing the wish to see a quick end to the war. In a word, the role of Iraq's diplomatic power was important, but not decisive. A decisive but negative role was played by Iraq's military power.

Iraq's armed forces had a total strength of 402,000, with annual defence spending of about \$1.4 billion. The small Iraqi navy was destroyed in 1991 and had not been rebuilt since then. The Iraqi Air force had around 20,000 men when the war began, with between 316 and 325 combat aircraft. Its air defence forces had about 210 missile launchers and 150 early warning radars. Iraqi Army had some 350,000 to 375,000 men, with about 1,800–2,000 tanks and 3,000 other armored vehicles.⁴²³ Because of the arms embargo, most of Iraqi weapons had not been replaced or maintained since 1991. They were old and many were not serviceable. For example, it is estimated that the Air Force had only about 50-60% aircraft available.

The decisive role of the Iraqi military element of power was demonstrated in two respects. First, military power was Saddam's tool to hold onto his regime. Saddam had been in power since 1979. It was not because the Iraqi people supported him, but he controlled military forces able to suppress any revolts. In the Gulf War, if the Coalition had been able to destroy Saddam's armed forces, the Shi'ite uprising in the south and Kurds uprising in the north would have overthrown Saddam in the following months.⁴²⁴ Moreover, in 2003, the objective of the Coalition's war was quite clear to Saddam. It was not as NATO had done in the Kosovo War, where Milosevic was only forced to make some concessions on Kosovo. In this case, Saddam was cornered. He needed to use whatever he had to defend the regime.

Second, the Iraqi troops, despite a lack of airpower, had the potential to cause serious problems for Coalition forces, even if the US Army officers believed them to be only

⁴²² Ratnesar, March 17, 2003, p. 21.

⁴²³ Anthony H. Cordesman and Arleigh A. Burke, *The Lessons of Iraq War: Main Report*, Eleventh Working Draft, July 21, 2003, Washington, DC: Centre for Strategic and International Studies, 2003, pp. 27-48.

⁴²⁴ Efraim Karsh and Inari Rautsi, *Saddam Hussein: A Political Biography*, London: Futura, 1991, pp. 267-275.

a hollow shell.⁴²⁵ It is correct that the Iraqi troops were much inferior to those of the US-led coalition and that the outcome was little in doubt. Some of the formations, including even the Republican Guard divisions, had low morale, with no stomach for a hopeless fight against the Coalition forces.⁴²⁶ However, if Saddam had adopted a better strategy, the Coalition might have not been able to win so easily. Before the war, nearly everyone believed urban fighting would dominate the war. The US troops had conducted urban war training for a long time for the fight in Baghdad. But instead of positioning his most capable combat force, the Republican Guards in Baghdad to conduct urban warfare, Saddam positioned them outside of Baghdad. Four Republican Guard divisions formed two defensive arcs to stop the US troops' advance from the south. The result was that most of the Guards heavy weapons were destroyed for the lack of shelter from air attacks. Once the US troops circled and bypassed the defending built up areas, the troops either collapsed quickly or were rendered incapable of threatening the US forces.⁴²⁷

The loss of the Republican Guard forces meant the southern gate of Baghdad was open to the US troops. Without air cover, Iraqi troops in other areas could not move to reinforce Baghdad.⁴²⁸ When the US troops arrived there, there were probably only some 15,000-25,000 lightly armoured forces of the Special Republican Guard.⁴²⁹ Although those troops were supposed to be more loyal to Saddam and more capable of dealing with internal security, they were probably not good at fighting a modern army. Furthermore, the numbers of troops were too far small to defend a city with a population of five million. On 5 April, several tank units from the US's 3rd Infantry Division rolled into supposedly heavily defended Baghdad city, but encountered no resistance.⁴³⁰ It clearly demonstrated that the city had virtually no serious defences at all.⁴³¹

⁴²⁵ Mark Mazzetti, 'We Have Met the Enemy... (War in Iraq)', *U.S. News & World Report*, June 16, 2003, p. 1.

⁴²⁶ Terry Mccarthy, 'What Ever Happened to the Republican Guard?', *Time*, 12 May 2003, p. 22.

⁴²⁷ Mccarthy, pp. 20-24.

⁴²⁸ Cordesman and Burke, p. 82.

⁴²⁹ John Keegan, 'Even the Iraqis Can't Deny Who Has the Upper Hand', <http://www.telegraph.co.uk/news/main.jhtml?xml=%2Fnews%2F2003%2F04%2F05%...> (13 April 2003).

⁴³⁰ CNN.com, 'U.S. Soldiers, Tanks Enter Iraqi Capital', <http://edition.cnn.com/2003/WORLD/meast/04/04/sprj.iq.war.main/>, (12 August 2003).

⁴³¹ W. Andrew Terrill, *Nationalism, Sectarianism, and the Future of the U.S. Presence in Post-Saddam Iraq*, Carlisle Barracks, PA: Strategic Studies Institute, 2003, p.11.

It is quite puzzling why Saddam did not conduct urban war in Baghdad. It is also difficult to understand why Saddam had not ordered mining of roads, blowing up of bridges and destruction of airport facilities and runways. Nevertheless, the fall of Baghdad on 9 April did not mean the immediate end of the Saddam regime. The regime still had large number of troops in northern Iraq. If the US-led coalition had left Iraq at that time, Saddam would have used the remaining troops to recover what he had lost. Even if Saddam had been killed; his sons might have taken control of the country. Thus Bush did not declare the end of the war and the realisation of overthrowing the Saddam regime on that day. He waited until 1 May when all Iraqi formations had been destroyed or at least dispersed.

The US's strategy in destroying the Iraqi centre of gravity (the Iraqi Army) was through attacking Iraqi critical vulnerabilities and critical capability: Saddam's regime, the hold on Baghdad, Iraqis' morale, and the Republican Guards. Saddam's regime was like a sand castle, which was held together by force and terror. It could be said the military power was the assurance of the existence of the regime. But on the other hand, the most serious threat to the regime also came from military power. Saddam had strong suspicions about his troops' loyalty, even the Republican Guards. This was probably the reason why Saddam only kept Special Republican Guard in Baghdad,⁴³² which fatally weakened the defence. For these reasons, the Iraqi military had a rigid command and control system, allowing little room for commanders to take flexible initiatives.⁴³³ All major decisions had to be made by Saddam or his sons. If Saddam was killed or cut off from his troops, on the one hand, it could produce psychological effects on the forces in the field. On the other hand, it in any event reduced Iraqi forces combat effectiveness. Therefore, unlike the previous Gulf War, in which the strategic air campaign had focused heavily on infrastructure targets, in this war, bombing was aimed at Iraqi leadership targets, such as its communication centres, Saddam's residences, and other places where Saddam possibly stayed.⁴³⁴

⁴³² Christopher Aaron, 'Rumsfeld's War', *Jane's Intelligence Review*, July 2003, p. 16.

⁴³³ Jane's 'Jane's Sentinel Security Assessment – the Gulf States', Posted on [www. Janes.com](http://www.janes.com) on 13-Jan-2003.

⁴³⁴ Michael Knights, "'Iraqi Freedom' Displays the Transformation of US Air Power', *Jane's Intelligence Review*, May 2003, p. 18.

Baghdad is Iraq's capital. It has vital military value. It is the most suitable place for concentrating troops and conducting urban warfare. The large number of historical and religious places, and the huge population could have seriously inhibited the US technological superiority. This was what the US worried about. Lt. General James Conway, the commander of the 1st Marine Expeditionary force, once told the *U.S. News* on the road to Baghdad, "If we wound up having to take down the city of Baghdad, that has a population in excess of 5 million people, block by block and house by house, we [would] have failed."⁴³⁵ This means if Saddam had really prepared an urban fight in Baghdad. Baghdad could have become Iraq's critical capability. However, Saddam chose the opposite, and Baghdad's high symbolic value made it become Iraq's critical vulnerability.

In history, the fall of a capital usually creates a serious psychological impact on a country's resistance against foreign invasion. The situation was compounded in Iraq, where most people did not want to fight for the regime. The silence of the regime and the disappearance of Saddam sent a signal to the whole country. Those, who did not want to fight, were no longer afraid to leave the field to save their lives, thus facilitating the collapse of whole formations. Saddam's loyalists' confidence was gravely compromised. If Baghdad could not be defended, there was no hope of holding other places. In the following days, the remaining Iraqi troops melted away more quickly than before. Even in Tikrit, Saddam's hometown, the U.S. forces did not meet the expected heavy resistance.

Iraqis' morale, one of its critical vulnerabilities was the major target of the Coalition's psychological warfare. Apart from 306 broadcast hours of radio and 204 hours of television, the Coalition flew 158 leaflet missions and ultimately dropped nearly 32 million leaflets with 81 different contents. The evidence to date indicated that these missions helped considerably to persuade Iraqi forces not to fight or to defect, desert, or surrender.⁴³⁶ Furthermore, the effects of psychological warfare were interwoven with other kinds of operations. The quick movement of the Coalition forces and the serious threat of precision air strikes seriously damaged Iraqis' morale. The lowered

⁴³⁵ Mazzetti and Whitelaw, p. 20.

⁴³⁶ Cordesman and Burke, p. 355.

morale in turn resulted in low combat initiative and combat efficiency of the Iraqi troops, which further facilitated the Coalition's speed.

The Republican Guards were the critical capability of Iraq's resistance. It was thought to be the backbone of the Iraqi Army, and generally speaking it showed more loyalty to Saddam than regular forces. Destruction of the Republican Guards was probably the most direct way to crush the Iraqi Army. Thanks to Saddam's decision to deploy those Republican Guards out of Baghdad, the Coalition was able to destroy most of the Guards south of Baghdad.⁴³⁷ In all, the attacks on critical vulnerabilities and critical capabilities complemented each other to destroy Iraq's centre of gravity, its military power, which was, in this circumstance, the Iraqi Army.

The US's centre of gravity

Saddam's objective in the conflict was to keep his regime in power. It was clear to him that Iraq was considerably inferior to the US in at least four areas: military, economic, political, and social. The American social dimension of power was limited in this short war, for its principal motivation was to eliminate weapons of mass destruction. The US's diplomatic element of power arguably was its weak point. For the first time since the end of the Cold War, the US found that it had a great difficulty in mobilizing international support for its war effort. The most interesting aspect was that the strongest opposition came from within the ranks of its NATO allies. If France's position was understandable, considering its past performance, Canada's opposition was totally out of the US's expectation.⁴³⁸ To the US, this kind of support was important, but not decisive. It was better to have allies to share the burden of the war, especially economically. But the US could do it alone, even without the help of Britain. Moreover, as the only superpower in the world, the US was not afraid of being isolated. No country does not want to build a good relationship with the US. Therefore, some countries saw this was a great opportunity for them to further develop their relationship with the US. This might be the reason why the 'New Europe' jumped to offer their support. Above all, the US was still able to mobilize

⁴³⁷ Cordesman and Burke, p. 93.

⁴³⁸ CBC News, 'Chrétien restates opposition to Iraq war', <http://www.cbc.ca/stories/2003/03/18/chretieniraq030318>, (4 September 2003).

critical local support for its military operation. Kuwait and Qatar's support proved enough for the US to conduct the war.

The US's economic element of power was its critical capability. It is the base of its military and diplomatic power. The Pentagon's budget is equal to the defense spending of the next 12 or 14 countries combined together.⁴³⁹ For conducting this war, President Bush had signed a supplemental budget bill giving the Department of Defense \$62.4 billion.⁴⁴⁰ According to recent developments in the Iraqi situation, the US may have to spend more than that money. Although arguably it is still within the capability of the US economy, the excessive war spending has already caused dissatisfaction in the US. It is clear that Saddam could not hold out long enough to cause an unbearable economic burden for the US. But if Saddam had been able to prolong the war, it might have considerably increased the US spending and affected the US's national will to fight.

Generally speaking, the US's national will to fight was quite strong through out the war. American public support was positive. A CNN/USA Today/Gallup Poll survey on February 10 revealed that 63% of respondents favoured sending ground troops to remove Saddam, 56% of respondents said Iraq posing a threat to the US.⁴⁴¹ On February 19-20, a joint Time and CNN public opinion poll showed that 42% of Americans surveyed believed the US should send ground troops to Iraq to remove Saddam only if the UN supported such action, with 34% supporting sending troops even if the UN opposed it. Some 19% did not support the war regardless of the UN attitude.⁴⁴² Another public poll on March 29-30 indicated that the approval rating of Bush's foreign policy was 64%.⁴⁴³ These public polls showed that the American domestic support for the war was high and stable. But this did not mean that the Americans were not worrying about the war. Many citizens believed the war with Iraq would weaken the economy. A US citizen said, "Everybody is afraid of the [war's]

⁴³⁹ Kennedy, Perle, and Nye, Jr., p. 15.

⁴⁴⁰ Cordesman and Burke, pp. 115-116.

⁴⁴¹ CNN.com, 'Poll: Bush Gaining Support on Invading Iraq', <http://edition.cnn.com/2003/US/02/10/sprj.irq.iraq.poll/index.html>, (25 July 2003).

⁴⁴² Time/CNN, 'Parsing the Poll', *Time*, March 3, 2003, pp. 22-23.

⁴⁴³ James Carney and John F. Dickerson, 'Taking Aim at 2004', *Time*, May 5, 2003, p. 16.

impact on the economy. Right now he's [Bush] focused on the war to the exclusion of everything else."⁴⁴⁴ However, the war was too short to change public opinion.

The US Government saw a number of reasons to remove Saddam. From a security perspective, Saddam had long been an important US enemy. As Vice President Dick Cheney said, "We have swept [Iraq] under the rug for too long. We have a festering problem there."⁴⁴⁵ The Iraq issue became urgent after the 11/9 aircraft attacks and following anthrax attacks on New York City and Washington. The fear of terrorists using WMD to attack the US cities loomed large for the Bush Administration. Although no evidence was found linking Saddam to the attacks, Saddam's WMD program, his past behaviour and hostility probably made the US believe that it was better to remove him before he really had capabilities and the intention to act. Furthermore, a successful war against Saddam could serve as a great deterrent for other countries defined as 'rogue states' or in the 'axis of evil'.

From a political perspective, the overturning of the Saddam regime, and the setting up of a democratic government would change the political situation in the Middle East. The US could use Iraq as an example to produce pressures on regional countries, forcing them to conduct democratic reform. With a pro-US government in Baghdad, the US troops could move out of Saudi Arabia to Iraq, thus reducing the Muslims' resentment of the US troops stationing nearer their holy places. Without Saddam, Bush will have more freedom to help assist Israel to make a peace deal with Palestine and other Arab neighbours. On the opposite side, after losing the Saddam lobby, Arab countries, especially Saudi Arabia, Jordan and Syria's would have their status in peace talks weakened, thus increasing the possibility of forcing the Palestinians to make more concessions. At home, for the next election, Bush needs to continue his anti-terrorism campaign, to motivate public support.

Economically, the disappearance of Saddam Hussein could stabilize the world oil market. Every time, a crisis with Saddam occurred, the world oil price would shoot up. So long as Saddam was in power, the possibility of an oil crisis because of him always existed. Thus, the pain of a short war to solve the problem permanently was

⁴⁴⁴ Karen Tumulty, 'The Doubts of War', *Time*, March 3, 2003, p. 23.

⁴⁴⁵ Sandy Young, 'First Stop, Iraq', *Time*, March 31, 2003, p. 103.

worth undertaking. Secondly, restricting Iraq oil to the world market was not in the US economic interests. Once Iraq resumed its exports, the current high oil price would most likely be lowered. As White House spokesman Ari Fleischer said, "If this [war] had anything to do with oil, the position of the United States would be to lift the sanctions so the oil could flow. This is not about that. This is about... protecting the American people."⁴⁴⁶ Thirdly, Iraq's post war reconstruction is worth billions of dollars, and American companies would enjoy a large part of that big cake. Lastly, the war could be used as a short time stimulator to economic recovery by the large government spending. In the second quarter of 2003, the US economy demonstrated signs of recovery, with an increase rate of 2.4%.⁴⁴⁷

The US Government not only saw the imperative of overthrowing Saddam's regime, but also had a strong will to use force. It is widely believed that a majority of the Bush Administration are hawks, from President Bush, Vice President Dick Cheney to Secretary of Defense Donald Rumsfeld and his Deputy Paul Wolfowitz.⁴⁴⁸ Bush believes that deterrence means nothing against shadowy terrorist networks with no nation or citizens to defend, and containment is not possible when unbalanced dictators with WMD can deliver those weapons on missiles or secretly provide them to terrorist allies. Therefore, the US "doesn't want the smoking gun to become a mushroom cloud." The US must take the battle to the enemy, disrupt his plans and confront the worst threats before they emerge.⁴⁴⁹ Bush's fondness of the military is obvious. Even when talking about tax cuts, he liked to stand in front of a F-18 fighter jet, or be flanked by the guns of M-1 Abrams tanks.⁴⁵⁰ Rumsfeld's love for war is no less than Bush. The principal responsibility of Secretary of Defense is policy formulating, not directing military operation. However, in the war, General Franks, the commander of the war, was frustrated by Rumsfeld's interference. Retired

⁴⁴⁶ Adam Zagorin, 'All about the Oil', *Time*, February 17, 2003, pp. 20-22.

⁴⁴⁷ Suzanne McGee, 'Iraq War Spending Lifts U. S. Economy', <http://www.nypost.com/business/4437.htm>, (4 September 2003). The same argument could be found on the web sites: http://english.peopledaily.com.cn/200303/24/eng20030324_113890.shtml, <http://www.cdi.org/russia/246-15.cfm>, and <http://www.washingtonpost.com/wp-dyn/business/specials/wariniraq/>.

⁴⁴⁸ Young, pp. 98-106.

⁴⁴⁹ Carlisle Barracks, 'The Bush Doctrine and War with Iraq', *Parameters*, Spring 2003, pp. 4-21. This copy is from the web site: <http://proquest.umi.com/pqdweb?TS=1058148142&RQT=309&CC=2&Dtp=1&Did=000000301391601&Mtd=2&Fmt=3>, (14 July 2003).

⁴⁵⁰ James Carney, John F. Dickerson, 'Taking Aim at 2004', *Time*, May 5, 2003, p. 16.

General Norman Schwarzkopf's impression of it is that, "It looks like Rumsfeld is totally, 100%, in charge [of military planning]."⁴⁵¹ Wolfowitz's advocacy of the Iraq War was one the earliest and most persistent. He began to urge Bush to go to war against Iraq only four days after the 11/9 attacks, when the other policymakers' eyes were all on the Taliban.⁴⁵²

Once this strong national will to fight formed, it was hard to alter it by merely diplomatic pressure, a short-term economic burden, and insignificant public opposition. Furthermore, Bush could not afford to take those deployed forces home after spending billions of dollars, as had happened to the Clinton Administration in similar circumstances. It could be said the contradiction between the two sides had reached such a point that it could only be solved by military means. Bush decided to kick Saddam out, while Saddam wanted to obstinately remain in power at all costs. It had been proved that economic and diplomatic means could not help overthrow Saddam, and so Saddam could not stop Bush waging the war. To Saddam, the only effective way to keep his regime was to make a significant difference in the battlefield, to inflict heavy damage on the US's military power, thus forcing the US to lower its objectives to something than regime change. This would be similar to the Korea War, where Kim Il Sung overran the Southern troops, with the objective of uniting the country under his control. When MacArthur forced the collapse of Kim's forces, he too did not want to stop at the 38-Parallel, but wanted a united Korea. However when neither side could win a decisive victory, Both Kim Il Sung and the US had to settle for lesser objectives, including the existence of two rival political entities.⁴⁵³

The possibility for Saddam to succeed was minimal. But in this war, the US had some weak points. If Saddam could have properly made use of them, the final result might have been different. First, the US had high moral constraints. The war was conducted under the name of liberating the Iraqi people from the tyrant Saddam Hussein. If the war resulted in high collateral damage and civilian casualties, the US's legal basis of the war would be seriously damaged. It would become ironical, if the US leaders told

⁴⁵¹ Mark Thompson and Michael Duffy, 'Pentagon Warlord', *Time*, January 27, 2003, p. 14.

⁴⁵² Romesh Ratnesar, 'Paul Wolfowitz: Bush's Brainiest Hawk', *Time*, January 27, 2003, pp. 18-19.

⁴⁵³ Peter Lowe, *The Korean War*, London: Macmillan Press, 2000.

the world that they were helping the Iraqi people, while their forces were creating a humanitarian disaster for those people. Second, for post-war reconstruction, the US not only had to control the damage to infrastructures, but also to prevent Saddam from destroying infrastructures. The delay of recovery of daily life and oil production would cause social uncertainty and anti-American sentiment, which is exactly what happened after the war. Third, the situation in Iraq was that many people hated Saddam as well as the Americans. They did not fight the US, because they wanted the US to eliminate Saddam. If the US had caused huge civilian casualties, the US might have pushed many Iraqis to Saddam's side. Finally, the Americans were still sensitive about casualties, although in this war they were prepared to accept a reasonably high death toll, because of the large number of deaths on 11/9.

It could be said Saddam had not attacked the US weaknesses in the war. But it did not mean Saddam did not want to attack them. Saddam's strategic choice was largely limited by Iraq's internal political and security situation. He had cumulatively created his regime's greatest weakness – an ineffective army with doubtful loyalties. Throughout the crisis, Saddam adopted an asymmetric approach and focused his efforts on the diplomatic area. He wanted to “subdue the enemy without fight.” However, he did not have enough leverage to eliminate the US will to ouster him.

In summary, the role of the Iraq's economic dimension of power was limited in this war. It was mainly used to attempt to draw diplomatic support in war prevention. The role of the Iraqi social element of power was also minor, because most Iraqis' hatred toward Saddam was deeper than that toward the Americans. This social situation resulted in little popular support for Saddam in fighting the US troops. Since Saddam's regime was based on his military power, the US could not achieve its main political objective of overthrowing the Saddam regime, without destroying Saddam's troops. The US's strategy in destroying the Iraqi centre of gravity was through attacking Iraqi critical vulnerabilities, Baghdad, the Iraqi leadership, morale, and the Republican Guards.

Saddam's objective in the war was to keep his regime. He failed to do so, because Iraq was considerably inferior to the US in at least four areas: military, economic, political, and social area. The US's diplomatic element of power arguably was its

weak point. The US's social element of power made some contribution to public support for the war, but the principal public motivation of the war was to eliminate Iraq's WMD. Based on supreme economic and military power, the US Government not only saw the imperative of overthrowing Saddam regime, but also had a strong will to use force. To Saddam, the only way for him to keep his rule was to inflict heavy damage on the US centre of gravity, its military power. It could be said that Saddam had not made full use of the US's weakness by attacking its centre of gravity, that is by bringing about a slow, costly, protracted conflict. Saddam's asymmetric strategy to save the regime might have been effective, but was not decisive enough to avoid defeat.

Chapter Seven: Questions about the Application the Centre of Gravity concept

In the earlier Chapters, this thesis has refined the concept of the centre of gravity, and applied the concept to four different wars: the Vietnam War, the Falklands War, the Palestinian and Israel Conflict, and the 2003 Gulf War. It seems that the concept is able to explain the reasons for success and failure in the wars or operations, and the relationship between critical capability, critical vulnerability, and the centre of gravity. Generally speaking, a correct identification of the centre of gravity facilitates the achievement of objectives; a wrong judgement leads to prolonged war or failure. However, the main aim of defining the concept is to provide policy makers or commanders with a useful tool for analysing the enemy and directing future wars or operations. This Chapter will discuss questions concerning the application of this centre of gravity theory in the future.

Question one: some rules for identifying the centre of gravity

In Chapter Two, this thesis defined the enemy's centre of gravity as the enemy's most critical element of power. It is the place where the effects of one's efforts are best made. This definition provides two criteria for identifying centre of gravity.

Firstly, the centre of gravity is the enemy's most critical element of power. It is worth noticing that the 'most critical' is different from the 'most powerful' element. It is more related to the importance of achieving one's objectives. In the recent Iraq War, Saddam's strongest element of power was his diplomatic power. But it was not the most critical obstacle for the US to overthrow Saddam. Not only could the US neglect it, but also by doing so they did not increase Iraq's other elements of power. Iraq's military power was weak in comparison with that of the US, but nevertheless it became the centre of gravity, because it was the cornerstone of Saddam's regime, and the most direct threat to the US war effort.

Secondly, focusing effects on the centre of gravity is the most practical and effective way to achieve one's objective. It is possible that an element of power is very

important, but it may not necessarily be the centre of gravity, since one may not have the practical means to eliminate it, or the effort to eliminate it exceeds the constraints by the objective. There also exists the possibility that one might achieve their objective by focusing on another element of power. However, compared with attacking the centre of gravity, it is less effective, and has less chance of success. In the Palestinian and Israel conflict, the Palestinians may use terrorist attacks to wear down Israel's will to continue the occupation. But this possibility is very small. It may take many years and cost thousands of life, or it may not work at all. The most practical and effective way may be to use all measures to influence the US to pressure Israel into making to make concessions, though this is still very difficult for the Palestinians to achieve. The possibility of success by this means is nevertheless higher than by the other options.

These two criteria are in fact connected with each other. The element of power is critical, because attacking it is the most practical and effective way to achieve objectives. Therefore, a correct identification of the centre of gravity needs to satisfy both criteria at the same time. Accepting that criteria, there are also some rules in identifying the centre of gravity. In a short limited war, if the objective is to occupy a place or a country, the strategic centre of gravity may be the enemy's military element of power. Defeating the enemy's military power is usually the most direct and possible way to achieve a quick victory. If the objective is to force a government to make some concessions, the centre of gravity could be the political element of power. For example, in the Kosovo War, NATO wanted Melosevic to make concessions on Kosovo, therefore the Serb troops were not the centre of gravity. Military operations, economic sanctions, and diplomatic pressure all aimed at affecting Yugoslavia's national will to fight. As discussed before, wearing down a country's national will to fight usually takes a relatively long time to achieve. That was probably the reason why the expected short war over Kosovo dragged on for 78 days.

In a stalemated war or long conflict, the two sides usually reach a kind of military balance. Neither can decisively defeat the other side. When this happens, the centres of gravity of both sides usually shift from military power to other elements of power. In another words, it becomes useless or too costly to solve the problem through military means. But it does not mean the confrontation on the battlefield ceases. The

two sides have to maintain the stalemate. It may be the pre-condition for shifting efforts away. If one side's military element of power is significantly weakened and the balance is destroyed, the opponent may not need to find another way out.

Question two: attacking centre of gravity

After identifying the centre of gravity, commanders have to formulate their strategy to attack it according to the characteristics of the centre of gravity, and the means to hand. Generally speaking, military power and diplomatic power take effect quickly, while economic, political, and social elements of power are slow in showing effects. Military and diplomatic influences are short, while economic, political, and social influences are long and profound. It is difficult to use military and diplomatic force against deeply rooted economic, political, and social systems.⁴⁵⁴ History has also proved that using the military against the social and political elements of power sometimes results in opposite effects. Israel wants to suppress the Palestinian violence by killing and jailing those using force against them. However, Palestinian violence against Israel is rooted in deep hatred towards Jews and the confrontation between Judaism and Islam. Every killing of Palestinians only serves to increase the hatred, and leads to more suicide bombings.

There are three general approaches to attacking the centre of gravity; through critical vulnerability, critical capability, and a combination of these. Arguably, it is the place where strategists depart from each other. Clausewitz and Liddell Hart are probably the representatives of two extremes. Clausewitz advocated a direct approach to the centre of gravity. He usually identified the enemy's main troops as their centre of gravity, and believed that the most effective way to victory is to use one's own centre of gravity against the enemy's centre of gravity.⁴⁵⁵ At the opposite extreme, Liddell Hart was strongly against a direct approach. At the strategic level, he insisted on the importance of physical and psychological effects by attacking the enemy's economy and public support of the war. At the operational level, he advocated attacking the enemy's critical vulnerabilities, such as logistic bases, line of communications, line of

⁴⁵⁴ Pat Pentland, 'From Centre of Gravity Analysis and Chaos Theory, or How Societies Form, Function and Fail', in Czerwinski, <http://www.dodccrp.org/copapp6.htm>, (14 March 2003).

⁴⁵⁵ Clausewitz, p. 485.

retreat, and the rear areas, thus causing a morale collapse among the enemy. Liddell Hart expressed his strategy simply as: “No general is justified in launching his troops to a direct attack upon an enemy firmly in position. [Secondly] that, instead of seeking to upset the enemy’s equilibrium by one’s attack, it must be upset before a real attack is, or can be successfully, launched.”⁴⁵⁶ It is hard to tell which approach is better. A successful direct attack may lead to a quick victory, but may suffer more casualties, while an indirect attack may take longer time to achieve success, but involve fewer casualties. It could be said that a successful commander has to decide his strategic approach according to the real situation. The relationship between the centre of gravity, critical vulnerabilities, critical capabilities, and objective is showed in Diagram 7.1.

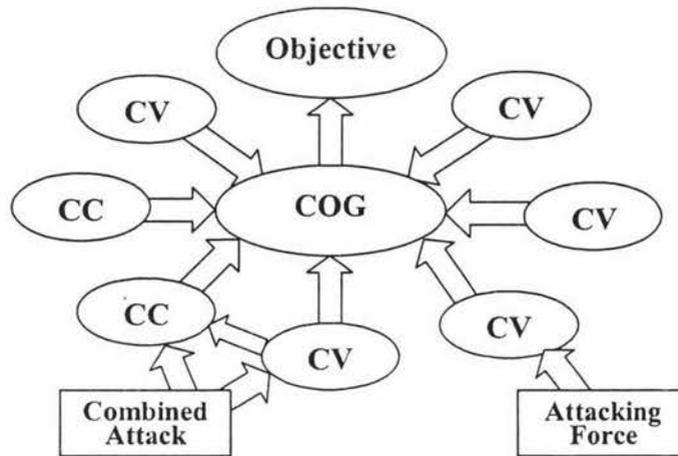


Diagram 7.1: Relationship between CV, CC, COG, and Objective

In the diagram, the critical vulnerabilities and critical capabilities are not necessarily the components of the centre of gravity. They could be any components at any levels of the whole war system, or operational system. The attack on a critical capability or critical vulnerability is not aimed at producing the maximum effect on a subsystem, or an element of power. The criterion is the impact on the centre of gravity. As discussed in Chapter Six, in the 2003 Gulf War, Iraq’s centre of gravity was its military element of power. Bombing Iraq’s economic critical capabilities or critical vulnerabilities thus became meaningless for a short military victory. In Korea, in June 1953, the Chinese volunteers launched a series of heavy attacks specifically at Syngman Rhee’s troops,

⁴⁵⁶ B. Liddell Hart, *The Strategy of Indirect Approach*, London: Faber and Faber Ltd, 1941, pp 182-3.

and nearly destroyed two of his divisions. It was the weak point of the US-South Korean military power. However, the aim was not to weaken their military power, or to change the military situation, but to force Syngman Rhee to make concessions on the diplomatic front.⁴⁵⁷

The relationship between critical vulnerabilities and critical capabilities is interdependent. Sometimes, the attack on critical vulnerabilities has to be through critical capabilities. Such as in the Vietnam War, where US public support was attacked through the attacks on the US military forces in Vietnam. Sometimes, the attack on critical vulnerabilities is not to destroy the centre of gravity directly, but to weaken critical capabilities, thus creating necessary conditions to enable them to be attacked. In the Falklands War, Argentina's dependence on Western weapons was one of its critical vulnerabilities. Britain successfully made use of it. The French by delaying the passage of Exocet missiles to Argentina and Peru had greatly weakened Argentina's air attack capability.⁴⁵⁸

Question three: the changing of centre of gravity

The centre of gravity is decided by the interactions of the rival sides in a war or operation. Usually the centre of gravity of a war is unchanging and relatively stable during the course of action. But sometimes the change of objectives or strength may lead to a change of the centre of gravity. This kind of situation generally happens along with the formation of stalemate in a war or conflict. For example, at the initial stage of the Arab-Israel conflicts, the Arabs' centre of gravity was their military power. It was the most critical element that threatened Israel's objective; the existence of the State of Israel. However, through the establishment of superior military power by the Israel Defence Force, the threat to the existence of Israel is no longer a problem. To Israel, its objective is to maintain the occupation of the Palestinian land, especially the West Bank. The most critical challenge to this is the Palestinians' continuing will to resist.

⁴⁵⁷ Donald W. Broose, Jr., 'The Korean War Truce Talks: A Study in Conflict Termination', *Parameters*, Spring 2000, p. 112.

⁴⁵⁸ Thomas Sanction and Larry Gurwin, 'How the War was Won', *Time*, September 9, 1996, pp. 40-42.

If there is a need to re-focus efforts on a new centre of gravity, this should be achieved at a proper time and with suitable strategy. It requires the policy makers and commanders to correctly analyse the situation. To a high degree it is the quick and accurate assessment of the situation and the reading of changes that permits one side or the other to realize that there has been a change, so permitting a redefining of the Centre of Gravity and therefore attacking it before the opponent realizes it. A correct change of strategy may promote an earlier end of the confrontation, while an improper change could lead to serious consequences. However, to some extent, the realisation of such a shift sometimes also depends on the interaction between two sides. For example in the Korean War, inspired by initial successes, both the Chinese and the US tried to defeat the other side. But when they found that there was no hope of winning a decisive victory, they quickly shifted to diplomatic means to end the conflict. In the following two years, the scale of the war was reduced and it was fought for diplomatic reasons, not for military reasons. By contrast, in the Iran-Iraq war, it was reasonable for the two to both try to win a decisive military victory at the initial stage. However, when the war proved that neither side had the capabilities to decisively defeat the other, it would have been better for them to refocus their efforts on negotiating a settlement. They tried to do this again and again for eight years.

Compared with the strategic centre of gravity, the operational centre of gravity has more facility to change, because the shift in the operational centre of gravity is usually connected with the change of objective. A change of operational objective may only mean a loss of an operation, while a failure to achieve a strategic objective probably means the loss of a war. Therefore, a strategic shift is decided only when the whole situation has fundamentally changed. An operational change may take place when a command decides that continuing the course of action may not be conducive to the achievement of the strategic objective. Furthermore, it is easier to analyse the macro strategic situation than the detailed operational situation.

Question four: the centre of gravity in anti terrorism war

Terrorism has already existed for a long time. It becomes more urgent than ever to fight against it, after the September 11 terrorist attacks on the US. However, fighting terrorism is much harder than fighting a conventional war. Unlike a traditional nation

state, a terrorist organisation may have no visible armed forces, no national economy, no infrastructures, and no strict organisational hierarchy. Based on these facts, there is an understanding that it is hard to find out terrorists' centre of gravity.⁴⁵⁹ This thesis argues that the difficulty in fighting terrorism is not because of the difficulties in finding the centre of gravity, but of the difficulties in attacking it.

To analyse a terrorist system by using the strategic centre of gravity model, the terrorist organisation should still be considered to have five elements of power. Its economic power originates from their open and covert businesses around the world and the donations of sympathizers. Its military power is its capabilities to use various kinds of weapons to conduct terror. Its political power may be a strong will to conduct religious war, or to promote a separatist movement, or the like. Often the leaders of current terrorist organisations, and also those who join, are willing to sacrifice themselves. The diplomatic power of any terrorist organisation is its capability of gaining support from other terrorists and sympathizers around the world. The social element of power often based on religious beliefs and hatred towards oppressors.

Among the elements of power, economic support is important for terrorism. However, with economic globalisation, the transfer of money from organisations or individuals to terrorists is very hard to disrupt. Militarily, terrorist organisations are very loose in structure. Destroying one part may not paralyse its function. Some terrorist organisations operate under cover of religion. Actions against them may cause further religious problems and hatred. Security measures are necessary and sometime effective, but the general population just cannot keep alert all the time. Diplomatically, automatic and unconditional support from other terrorist organisations may not be critical for an organisation's action. As demonstrated in the case of Chechnya, to try to isolate a terrorist organisation is hard and may have little effect. Arguably, the world community has expended a lot on the above areas, but no significant gain has been made. Part of the reason is that the anti-terrorist war is a long time effort. Probably the more important failure is that of not attacking its centre of gravity, which is a combination of its political and social element of power, the will to sacrifice and conduct terrorism.

⁴⁵⁹ James Reilly, *A Strategic Level Centre of Gravity Analysis on the Global War on the Terrorism*, USAWC Research Project, Pennsylvania: US Army War College, 09 April 2002, p. 7.

As to the current terrorist organizations, many of them are motivated by religion and hatred. For example, most Middle East terrorists' will to fight an Islamic Jihad is rooted in Islamic fundamentalism and various kinds of hatred.⁴⁶⁰ For Palestinians, the hatred is toward Israel. For al Qaeda, the hatred is mainly toward the West, particularly the Americans.⁴⁶¹ If Islamic fundamentalism were the fertile soil, hatred would be the seed sowed in it. When these two were put together, the will of sacrifice would be produced.

When fighting this kind of terrorist organization, people may need to rethink the current strategy against terrorism in the following respects: First, is there an excessive use of force? It is necessary to demonstrate a strong will to fight terrorism and to destroy the current terrorist organisations. But once the use of force is no longer justifiable, it probably serves more to produce hatreds and martyrs. Cases of this are the US wars against Iraq and Israeli attacks on Palestinian militant groups. Second, who is the suitable leader in the war against terrorism? Third, are there some problems in dealing with media? Freedom of speech is important, but that freedom should not create a threat to the majority of people. For instance, the repeated broadcast of bin Laden's messages is helping him in increasing his influence.

Above all, the concept of centre of gravity of the thesis is objective and effect-oriented. It stresses concentrating effects on the most critical obstacle. The thesis proposed two criteria for identifying centre of gravity and three general approaches to attacking the centre of gravity. However, the dynamic nature of the centre of gravity is one factor that makes identifying the centre of gravity as much an art as a science. War is not chess and modern nations are not chessboards. The correct application of the centre of gravity depends on the understanding of the nature of the concept, and the combination of the concept with real situation.

⁴⁶⁰ Ralph Peters, 'Rolling Back Radical Islam', *Parameters*, Autumn 2002, pp. 4-5.

⁴⁶¹ David G. Kibble, 'The Attacks of 9/11: Evidence of Clash of Religions', *Parameters*, Autumn 2002, p. 36.

Conclusion

The concept of the centre of gravity was first introduced to military thought by Clausewitz in his masterpiece: *On War*. It has been widely used as a strategic and operational planning tool. However, the interpretation of the concept is very diverse. Different people and different organisations define the term according to their own understanding. The problems caused by the confusion of the concept in wars and conflicts demonstrate the imperative to refine the concept.

Based on the consideration that basic principles of war are the same, time and cultural differences cannot deprive their universality, it could be deduced that the notion of attacking the centre of gravity exists on the battlefield and in the minds of strategists throughout history. The concept of the centre of gravity is only a name to express a certain thought, which Clausewitz tried to make easier to understand and use. Therefore, this thesis considered the general meaning of the centre of gravity through considering the reflections of Sun Zi, Clausewitz, Liddell Hart, Jomini, Mao Zedong, John Warden, and documents of the US Army, US Navy, US Air Force, US Marine Corps, US Joint Chiefs of Staff, and the Royal Australia Air Force, on the subject.

These strategists and organisations generally agree that the centre of gravity (or centres of gravity) is (or are) something very important. The attacks on the centre of gravity are the most effective way to achieve objectives. Therefore the centre of gravity is the place where one's effort should be focused. The different interpretations of the concept primarily focus on three areas: single-centre of gravity against multi-centres of gravity, critical capabilities against critical vulnerabilities, and critical vulnerabilities against source of strength. Except for John Warden, all strategists tend to define one centre of gravity. Among the US Armed Force's doctrines, Joint Pub 3-0, the USAF, and the USMC Doctrine stipulate multi-centres of gravity, while the US Navy and Army Doctrine prefer one centre of gravity. Clausewitz, Jomini, Mao, the US Army and the US Navy agreed that the centre of gravity is an enemy's principal strength. Conversely, Warden, the USAF, and the RAAF define critical vulnerabilities as the centres of gravity. Clausewitz, the US Army and Joint Doctrine also consider that the centre of gravity is the source of strength. Those approaches to the centre of

gravity could arguably be divided into two categories. One category is 'source of power' or critical capability. The other category is 'weakness or vulnerability' or critical vulnerability.

Although Clausewitz included some non-linear ideas into the centre of gravity theory, these were largely ignored by his followers. Most of the current centre of gravity definitions are linear in nature. In order to refine the centre of gravity concept in line with the non-linear nature of war, this thesis applied two non-linear theories: the Chaos and Complex theories. Chaos theory advocates achieving a non-linear "Butterfly Effect", while Complex Theory stresses the importance of interactions within the system.

The respective shortcomings of the current definitions are demonstrated in three areas: little consideration of the interactions of various parts within the system, little consideration of the strategic or operational environment, and little connection with the objective. Because of the interdependence and interactions between various actors in a non-linear system, it is very hard for a commander to identify which element is the 'source of power'. Focusing efforts on weaknesses and vulnerabilities may lead in the wrong direction. A weak or vulnerable point is attacked, not because it is weak or vulnerable, but because the attack can result in the achievement of operational or strategic objectives. If the centre of gravity is defined as an enemy's weakness and vulnerability, then one may have quite a number of centres of gravity, which raises the question as to where the effects have to focus. Over recent times, the most commonly mentioned application of the centre of gravity theory is Warden's Five Rings Model. Although the Five Rings Model is a systematic approach, it still lacks non-linear thinking. For example, the importance of the sub-systems cannot always descend from the inner ring to the outer ring.

In order to deal with these shortcomings, this thesis refines the **centre of gravity as: *the enemy's most critical element of power, to strike at which is the most practical and effective way to achieve one's objectives. It is the place where the effects of one's efforts have to be put.***

Based on this definition, two centre of gravity analytical models are built. The strategic model includes social, political, economic, military, and diplomatic elements, while the operational model consists of air, land, sea, information, and military culture elements. In the models, the elements of power are intertwined with each other. Each of the elements has the potential to become the centre of gravity of the system. An attack on one element will have impacts on other elements, though the extent is different. There also exists the possibility that the centre of gravity may be a combined one, such as social and political elements.

The first application of the concept and the models is the case study of the Vietnam War. In this war, the US's initial objective was to stop the expansion of the Soviets or Chinese supported communism. The most critical element of the North and NLF, their centre of gravity, was their diplomatic element of power, in particular the support from China and the Soviet Union. On the one hand, possible Chinese and Soviet intervention seriously limited the US's war efforts, allowing the North a secure base and the reliable Ho Chi Minh Trail to support their war in the South. On the other hand, massive material support and Chinese manpower support permitted the North to withstand a destroyed economy. Because of the US's failure in destroy this centre of gravity, the war became stalemated, and protracted, and escalated.

At a later stage, this diplomatic element of power was largely weakened by the Nixon Administration's successful diplomatic campaign. Nevertheless, the time was too late for the US. Evolving with the US adjusted objective of an 'honourable withdrawal', the North's centre of gravity gradually shifted to its national will to fight. To make things worse for the US, this centre of gravity was ironically strengthened by the US's internal problem and unilateral withdrawal of troops.

To the North and the NLF, their objective of uniting the country was constant. Because of the asymmetric strength of the both sides, the most possible and effective way to their destination was to destroy the American national will to fight. Their strategic approach of conducting a protracted war proved correct. But this did not necessarily mean that they had correctly identified the US's centre of gravity. Before 1968, the North and NLF focused their efforts on defeating the US and South

Vietnamese troops. It was after the Tet Offensive that the North and NLF turned to the US's real centre of gravity.

The US's public support, widely believed to be the US's centre of gravity, was in fact one of the US's critical vulnerabilities. It was one component of the US national will to fight. The US withdrawal from Vietnam mainly resulted from the combined influence of national interest, the partisan competition, battlefield degradation, high cost, and public attitude.

The second case study is the Falklands War. In this War, the strategic centres of gravity of both sides were the opponent's military power. The economic, social, and political elements' roles were limited in this short war. Diplomatic action seemed predominant, but in fact was not decisive. The final result was decided in battle. Although, Britain was willing to negotiate a settlement, it was more prepared for a military action. Its economic sanction and diplomatic negotiations were *aimed to* create certain necessary legal and operational conditions for the military action. On the opposite side, Argentina failed to realize the gap between the two sides was beyond negotiation. It focused too much on diplomatic area, while leaving its own troops confused and unprepared.

At the operational level, British combat ships were the critical capabilities of the Task Force, but not the centre of gravity. The real British military centre of gravity was its landing troops. Sinking several combat ships did not seriously weaken British amphibious operational capability. Furthermore, Argentina did not have the capabilities to destroy the British combat fleet. So, Argentina should have focused on the British critical vulnerabilities, which were closely linked with land operation. For example, the attacks on those ships carrying troops and war materials were not only easier, but also more critical to its objective. On the British side, their efforts were correctly directed towards Argentina's centre of gravity: the defending troops on the Falklands. Although Argentine Air power inflicted more casualties on the British, its defeat could not result in military victory and realization of political objectives.

The third case was the Palestinian and Israel conflict. In the last fifty years, tremendous efforts have been made to solve it, but produced little fruit. The circle of

vicious attack and revenge continues without sign of stopping. A vital reason is that they either do not focus on the centre of gravity, or they do not have the capability to attack it. To Israel, the most direct threat to its occupation is the Palestinians' street violence and terrorist attacks. Israel tries to solve these problems by using military attacks, assassinations, arrests, and closing Israel's borders. These measures are forceful but useless to eliminate the Palestinian centre of gravity, which is their strong national will to fight rooted in latent nationalism, hatred, and religious passion. On the opposite side, Israel's measures only serve to increase the hatred and strengthen the Palestinians' centre of gravity. The Palestinian diplomatic power although it is not strong enough to force Israel to withdraw from the occupied territories, is able to prevent Israel from openly annexing the occupied territories. To some extent, Israel's strategy is inherently faulty. To occupy neighbouring land to obtain traditional security exacerbates the problem of non-traditional threat.

The Palestinians' struggle against Israel is asymmetrical. Israel has superior economic and military power. It also has a strong national will to fight to continue the occupation, which is also incubated in Israel's social element of power: racism and religious passion. Palestinians' protracted violence does not seem hard enough to weaken Israelis' will for occupation. The most practical way for Palestinians to succeed in their campaign is to attack Israel's diplomatic element of power, the ability to hold the US's support.

There is little possibility that the US will withdraw its support for Israel. The Jewish lobby in the US is powerful enough to prevent this happening in the foreseeable future. But the Palestinians and other Arabs have some ability to influence the US. After the 11 September terrorist attacks, the US might be willing to impose more pressure on Israel for its own security reasons. However, its policy to gain more rights for Israel will not change in the peace process. It could be said any possible peace settlement is doomed to be an asymmetrical one, which will be in favour of Israel. But it has to be acceptable to Palestinians and all Arabs.

The fourth case is the 2003 Gulf War. America's political objective was to overthrow the regime of Saddam Hussein. In the war, Iraqi leadership and Baghdad were the two main targets. The occupation of Baghdad and disappearance of Saddam increased the

collapse of the Iraqi military formations and resistance. However, they were not the centres of gravity, but the critical vulnerabilities of Iraq. Because Saddam's regime was based on his military power, the US could not achieve its political objective of overthrowing the regime, without defeating Saddam's troops. Iraq's economic elements of power had some part in drawing diplomatic support to prevent the war, but had little impact on the military operation. The social element of power could have played an important role, but the patriotism and hatred toward the US were largely offset by the internal hatred toward Saddam Hussein. Lacking public support and being aware of the hopelessness of winning the war, the Iraqi national will to fight was weak. Diplomatic power was intended by the regime to prevent the war, but in the event, it only delayed it. Therefore, its role was limited once hostilities began.

Saddam's objective in the war was to keep his regime. He failed to do so, because Iraq was considerably inferior to the US in at least four areas: military, economic, social, and political area. Based on superior economic, military power, and popular public support, the US Government not only saw the imperative of overthrowing Saddam regime, but also had a strong will to use force. The contradiction between two sides was beyond diplomatic negotiation. This was the main reason why Saddam's strategy failed to prevent the war through attacking the US's weak point, the diplomatic element of power. The most practical way for Saddam to keep his regime was to inflict heavy damage on the US's centre of gravity, its military power. However, this was exactly what Saddam had not formulated a proper strategy to achieve, and was in any event far beyond his capabilities.

These cases studies not only show that the new concept and models are able to analyse the success or failure of wars and operations, but also prove that a correct identification of the centre of gravity facilitates the achievement of objectives, while wrong judgements can lead to prolonged war or failure. From these case studies, there was further discussion of four questions concerning future applications of the concept.

Regarding the identification of the centre of gravity, two interconnected criteria were put forward. The first criterion was that the centre of gravity is the enemy's most critical element of power. The meaning of 'critical' is more related to the importance of achieving one's own objectives, than the strength of an element of power. The

second criterion is that focusing effects on the centre of gravity is the most practical and effective way to achieve one's objective.

There are also some basic rules in identifying centre of gravity. In a short limited war, if the objective is to occupy a place or a country, the strategic centre of gravity is usually the rival military element of power. If the objective is to force a government to make some concessions, the centre of gravity could be the political element of power. In a stalemated war or conflict, the two sides usually reach a kind of military balance. At this point, military means no longer remain the critical and effective element in ending the conflict. The centres of gravity of both sides then usually shift from military power to other elements of power.

Attacking the centre of gravity is the next step of application. Commanders or policy makers have to formulate their strategy according to the characteristics of the centre of gravity, and the means at hand. Generally speaking, the attacks by or on military power and diplomatic power take effect quickly, while economic, political, and social elements of power are much slower in materialising. It is difficult to use military and diplomatic force against deeply rooted political and social systems.

There are three general approaches to attacking the centre of gravity, through critical vulnerabilities, critical capabilities, and a combination of these. Arguably, it is the place where strategists depart from each other. However, in history, pure cases of direct or indirect attack have rarely happened. Those critical vulnerabilities and critical capabilities under attack are not necessarily the components of the centre of gravity. They could be any components at any levels of the whole war-fighting, or operational system. An attack on certain critical capabilities or critical vulnerabilities is not aimed to produce the maximum effect just on that subsystem, or element of power. The criterion is the impact that attack has on the critical capabilities or critical vulnerabilities in relation to the centre of gravity.

The third question is about how to control the change of centre of gravity. The strategic centre of gravity is usually unchanged and relatively stable during the course of action. But sometimes the change of objectives or strength may lead to a change of centre of gravity. If there is a need to re-focus the efforts on a new centre of gravity, it

should be achieved at a proper time and with suitable strategy. A correct turn may promote an earlier end of the confrontation, while an improper change will lead to serious consequence.

The fourth question is about whether a terrorist organisation actually has a centre of gravity. This thesis argues that the difficulty in eliminating terrorism is not the identification of the centre of gravity, but to attack the centre of gravity itself, because terrorist organisations have no obvious critical vulnerabilities. The centre of gravity of most current world terrorism is the combination of its social and ideological power, their will to conduct terror. Using force against the loose terrorist network is very important, but not decisive. The most critical job in fighting terrorism is to destroy their social base. However, this may take a very long time to achieve.

Overall, the centre of gravity is an objective and effectiveness-oriented concept. The application of the concept in warfare is an art form, rather than a science. Using it to analyse a historical war or operation is one thing; applying the concept to direct a war or operation is fundamentally different. The correct application of the centre of gravity theory depends on the understanding of the nature of the concept, and the combination of the concept with the reality of the situation.

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