CANSOFCOM PROFESSIONAL DEVELOPMENT CENTRE

MILITARY STRATEGY

A PRIMER

LIEUTENANT-COLONEL (RETIRED) BILL BENTLEY, PhD

THE CANSOFCOM PROFESSIONAL DEVELOPMENT CENTRE

MISSION

The mission of the Canadian Forces Special Operations Forces Command (CANSOFCOM) Professional Development Centre (PDC) is to enable professional development within the Command in order to continually develop and enhance the cognitive capacity of CANSOFCOM personnel.

VISION

The vision of the CANSOFCOM PDC is to be a key enabler to CANSOFCOM headquarters, units and Special Operations Task Forces (SOTFs) as an intellectual centre of excellence for special operations forces (SOF) professional development (PD).

ROLE

The CANSOFCOM PDC is designed to provide additional capacity to:

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5. record the classified history of CANSOFCOM;
6. develop CANSOF publications that provide both PD and educational materials to CANSOF personnel and external audiences;
7. maintain a website that provides up-to-date information on PD opportunities and research materials; and
8. assist with the research of SOF best practices and concepts to ensure that CANSOFCOM remains relevant and progressive so that it maintains its position as the domestic force of last resort and the international force of choice for the Government of Canada.

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Lieutenant-Colonel (Retired) Bill Bentley, PhD

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FOREWORD

I am delighted to introduce the third monograph in the Canadian Special Operations Forces Command (CANSOFCOM) Professional Development Centre (PDC) Monograph Series. The PDC, renamed from its original moniker "CANSOF Battle Laboratory" in order to better describe its actual function, is mandated to enable professional development within the Command so as to continually develop and enhance the cognitive capacity of CANSOFCOM personnel. The PDC Monograph Series is just one of the many initiatives undertaken by the Centre to achieve this aim. This series of publications assembles subject matter experts to write on a wide range of topics that are directly SOF-related and/or of great interest and relevance to the SOF community. Although of great value to members of CANSOFCOM and their allies, the monograph series also acts as a vital educational tool for those outside of the SOF community, including the public at large.

This monograph, titled *Military Strategy: A Primer*, by Dr. Bill Bentley is an excellent example of the value of this PDC initiative. It provides a great primer on the subject of strategy and lays the foundations of a greater understanding of the policy/strategy interface, as well as the strategic/operational/tactical framework. This is of immense relevance to SOF operators as their actions span the entire range. Tactical actions by small teams of highly trained experts often carry operational, if not strategic consequences and impact. It is for this very reason that SOF are often called "the force of choice" for governments around the world. It is also the reason why SOF operators must fully understand the concept of "strategy" and how their actions impact the larger framework of the *Canada First* Defence Strategy.

As such, whether a member of the SOF community, the military at large, or someone who interacts with, or is interested in, the

profession of arms, I recommend this monograph to you. Our hope is that it stimulates thought and discussion.

D.W. Thompson
Brigadier-General
Commander
CANSOFCOM

MILITARY STRATEGY: A PRIMER

[Carl Von] Clausewitz is the closest that strategy's theorists have come to the genius and status of Sir Isaac Newton and Albert Einstein. On War *offers dicta, singly and in bunches, that approximate the theories of gravity and relativity.*

Colin S. Gray[1]

Introduction

Strategy is difficult. In fact, as will be asserted and demonstrated in this monograph, it is arguably the most difficult of all the levels of war and warfare – political, strategic, operational and tactical. Consequently, developing strategic thinkers and competent strategists is a truly herculean task for military forces. As one noted strategic theorist pointed out: strategy remains the domain of the strong intellect, the lifelong student, the dedicated professional and the invulnerable ego.[2] There are many reasons why strategy is this difficult and they will be noted in this monograph. The place to start, however, is to realize that the nature of strategy is eternal and does not change, whereas the character of strategies are different in various historical, geo-political and geo-strategic contexts. Thus, there is a General Theory of Strategy and a large number of discrete strategies, all of which must be thoroughly informed by this theory.

The influential contemporary strategist Colin S. Gray noted:

> *It is important to understand and sustain in practice a clear distinction between Strategy in general and strategies in particular plans. For application, the General*

> *Theory of Strategy needs filling out in detail with respect to each unique historical moment. Strategies change with their contexts but whether they be jointly land and air or narrowly naval or space in application they cannot evade the reach and grasp of Strategy's general theory.*[3]

While this monograph will focus mainly on the General Theory of Strategy, specific strategies in the five "geographies" of land, sea, air, space and cyberspace are covered in great detail in Beatrice Heuser's *The Evolution of Strategy;* Colin Gray's *Modern Strategy;* and John Baylis *et al*.'s *Strategy in the Contemporary World*.[4]

Given the scope of the subject at hand there is a vast literature on both Strategy and strategies. Although a lot of it will be summarized and synthesized here, an extensive bibliography is included for those interested in pursuing the matter in greater depth. However, the place to start has to be Carl von Clausewitz and Colin S. Gray, keeping in mind that Gray himself argues persuasively that, with regard to strategy, if Thucydides, Sun Tzu or Clausewitz did not say it, it probably is not worth saying.[5]

Among the many definitions extant, this monograph will be based on strategy defined as "the direction and use made of force and the threat of such force, for the purpose of policy as decided by politics."[6] This military strategy is always nested in the broader concept of grand strategy, here defined as "the comprehensive direction of power (any or all assets of a security community) to control situations and areas in order to obtain objectives."[7]

These are modern definitions that have evolved a very great deal since antiquity when the Greek word "strategy" applied specifically to the general (*strategos*) – the general is the one who practices strategy. By the 6th century at the latest, however, at the time of Emperor Justinian, in Byzantine usage, a distinction was made between a broad concept of strategy and hierarchically subordinated

to it, tactics, thereby separating the concept of strategy from any specific individual. Tactics were seen as the science that enables one to organize and manoeuvre a body of armed men in an orderly manner. This new paradigm is clearly reflected in Emperor Leo VI's (886-912) book *Taktika*, where he used the terms "strategy" and "tactics" in the same hierarchical manner as Justinian.

The two terms actually drop out of usage, in the West at least, around 1000 CE. The majority of authors from then until just before the French Revolution (1789) wrote of military matters in terms of the "art of war," or else they wrote "military instructions." In the middle of the 18th century the French Count Jacques Antoine Hippolyte Guibert (1749-91) was probably the first, in modern times, in his *General Essay on Tactics,* to define higher and subordinate levels in the conduct of war, although he did not refer specifically to strategy. Shortly after the publication of Guibert's *General Essay,* the Byzantine use of the term, which pertains even today, was reintroduced by Paul-Geodon Joly de Maizeroy in his own commentary on his translation of Leo's *Taktika*. In 1806 the Archduke Charles, the Hapsburg commander in the wars against Napoleon, defined strategy explicitly as the science of war – it designs the plan, circumscribes and determines the development of military operations. Tactics, by contrast, teaches the way in which strategic designs are to be executed – it is the necessary skill of each leader of troops.

By the time Clausewitz and Antoine-Henri Jomini were writing their treatises (1812-1830) the terms "strategy" and "tactics" had taken on a very modern connotation. Although not the only theorist to make the connection, Clausewitz most famously tied the two concepts directly to politics and policy. In this respect he was certainly influenced by his reading of Machiavelli, particularly the Italian's, *Art of War*. This work appeared in 21 editions in the 16th century alone. It was a revolutionary book because it

was the first of its kind to link war to the art of government. It was popular with the new ruling class of Europe who were interested in raising regular armies and advancing their interests by force of arms in what was an emerging European state system. Highlighting this relationship, Clausewitz defined war as merely the continuation of policy with the admixture of other means. He went on, in elegantly simple language, to define strategy as the use of engagements (tactics) for the political objective of the war. From that time until the 1980s in the Anglo-American literature the triad of policy, strategy and tactics provided the framework for all thought concerning military affairs.

In Prussia (later Germany), however, the concept of an intermediary level between tactics and strategy was beginning to take shape by the middle of the 18th century. According to Robert Citino, as early as the campaigns of Frederick the Great, the operational level can be found in embryonic form. The Prussians called it *Bewegungskrieg*, referring to the movement and command of large units outside the enemy's view. The term did not refer to tactical mobility or ground speed in miles per hour. Instead it meant the mobility of large units to strike the enemy a sharp, even annihilating, blow as rapidly as possible.[8] Evidence can also be found concerning this third level of warfare in Clausewitz's *On War* where he often refers to campaigns and large-scale operational movements. By the 1860s, Field Marshal Helmut von Moltke had published the first operational level handbook titled *Instructions for Large Unit Commanders*. From then until the end of the Second World War, the concept of operational art was firmly embedded in German doctrine.

In Russia, after the Russo-Japanese war of 1904/05, a number of military practitioners and theorists concentrated on the reform of the Tsarist army on both the organizational and intellectual planes.[9] Two in particular, V. K. Triandafillov (*The Nature of the Operations of Modern Armies*) and A. A. Svechin (*Strategy*), each

thoroughly familiar with German military thought, began to formulate their own conception of an operational level of war and associated operational art. In a series of lectures on strategy given at the Military Academy in Moscow, Svechin introduced the term "operational art" as the bridge between strategy and tactics. He defined operational art as the totality of manoeuvres and battles in a given part of a theatre of military action directed toward the achievement of the common goal set as final in the given period of the campaign. As Svechin formulated their relationship, politics shaped strategy in all its dimensions, strategy set the parameters of operational art and operational art shaped tactics to the demands of the theatre campaign.[10] From this time forward, through the Soviet era to the present, the operational level of war and operational art have been an integral part of Russian military doctrine.

In the West, however, outside of Germany and Russia, there was no movement towards studying the intermediary level of the "operational" until after the Second World War. Military theorists and practitioners would often speak of "grand tactics," referring to large unit operations, but this idea lacked the conceptual and intellectual sophistication of the German/Russian doctrine. Even after the Second World War there was little interest in revising traditional Anglo-American doctrine and, in fact, in a widely read article written in 1961, the American military theorist Walter Darnell Jacobs argued that the Soviet concept of the operational art was not a fundamental or significant contribution to military science.[11] This attitude prevailed in the US military establishment throughout the 1960s and 1970s.

In due course, in large measure as a result of the Vietnam War and as part of the far-reaching politico-military reform movement in the US, an intense study of both Soviet and pre-Second World War German doctrine was undertaken at the US Army Command

and Staff College at Fort Leavenworth, Kansas. By 1981, Generals William Dupuy and Donn Starry were writing of the need to move the US Army away from a belief in tactical annihilation, mass force and industrial power to a more sophisticated, deft and precise approach based on operational art.[12] At around the same time the American strategic theorist Edward Luttwak published a widely read article in the influential journal *International Security* entitled, "The Operational Level of War." He became one of the many defence critics consulted by army leaders when, in an effort to win back the institution's professional authority, they marketed the new doctrine to the interested public.[13] By 1982 the concept of an operational level of war was introduced through the Army's capstone operations manual FM 100-5. It was retained and significantly elaborated upon in the 1986 edition of the manual. By the early 1990s the concept was integrated into all joint US military doctrine.

American thinking and doctrine certainly influenced a number of North Atlantic Treaty Organization (NATO) nations, especially the British. In the UK, however, much thinking along these lines was indigenous, championed in particular by retired Brigadier-General Richard Simpkin, whose books *Red Armour*, *Deep Battle* and particularly *Race to the Swift: Thoughts on Twenty-First Century Warfare* (1985) argued persuasively that the idea of an operational level of war was conceptually sound and of great value for Anglo-American doctrine.[14] By the early 1990s, thinking along these lines percolated into the Canadian Forces and the four-fold framework of policy, strategy, operational art and tactics was included in Canadian military doctrine as well. A detailed account of the evolution of operational art in Germany, Russia and the United States can be found in Shimon Naveh's *In Pursuit of Military Excellence: The Evolution of Operational Theory* and John Olsen's *The Evolution of Operational Art*.[15]

It is within the context of this framework that this monograph will address the subject of strategy. Section One will examine the General System of War and Conflict and establish strategy as the "bridge" between policy and the operational sub-system. The impact that complexity has on the system and the implications this has for how we must think about war at all levels will be illustrated. Section Two deals with the concept of strategic culture or what is often referred to as a nation's "way of war." Clearly, strategic culture must be accounted for in any Theory of Strategy and at the same time this culture will strongly influence how specific strategies in the five "geographies" of land, sea, air, space and cyberspace are devised and executed. Section Three goes to the heart of the matter by outlining a general theory of Strategy and discusses the critical idea of strategic effect. The role and importance of special operations forces are raised here. The section concludes with a discussion of the two "kinds" of strategy – the Strategy of Annihilation and the Bi-Polar Strategy – and their relevance to the security environment of the early 21st century. Finally, Section Four examines the considerations surrounding the development of military strategic thinkers and military strategists in the Canadian Forces.

SECTION ONE
The General System of War and Conflict

It is reasonable to postulate that war can be better executed by those who understand complex adaptive systems than those who focus on simple, linear, transparent, classically logical Newtonian constructs.

Yaneer Bar Yam

Director, New England Complex Systems Institute

War and conflict are most usefully viewed as a complex adaptive system; in fact, a meta-system comprising a hierarchy of sub-systems each nesting in the other in ascending order from the tactical through to the political, as illustrated in Figure 1.

FIGURE 1

Complex adaptive systems are ubiquitous in nature, and human affairs generally and war in particular are no exception. They are

capable of changing and learning from experience. Complexity theorist John Holland defines such a system in a social, political or organizational context as a dynamic network of many agents acting in parallel, constantly acting and reacting to what other agents are doing (allies and adversaries). Such systems exhibit coherence under change, via conditional action and reaction and they do so without system-wide central direction.[16]

Complex adaptive systems are both interactive and non-linear. For a system to be linear it must meet two simple conditions. The first is proportionality indicating that changes in system outputs are proportional to system inputs. Such systems display what in economics is called "constant returns to scale," implying that small causes produce small effects and large causes generate large effects. The second condition of linearity, called additivity, underlies the process of analysis of such systems. The central concept is that the whole is equal to the sum of the parts. This allows the problem to be broken into smaller pieces that, once solved, can be added back together to obtain the solution to the original problem. Analytical thinking (linear and reductive) is a powerful tool for dealing with these types of systems.

Non-linear systems, that is to say complex adaptive systems, disobey proportionality and additivity. Interactive complexity is based on the behaviour of the parts and the resultant interactions or relationships among them. Interactively complex systems are also highly sensitive to inputs: immeasurably small inputs can generate disproportionately large effects. Conversely, even large efforts or inputs of energy (kinetic or otherwise) may not produce the desired effect. Equally important, with interactive complexity it is often impossible to isolate individual causes and their effects since the parts are all connected in a complex web. Interactive complexity often produces fundamentally unpredictable and even counter-intuitive behaviour. Such systems must be viewed

holistically – the whole is greater than the sum of the parts. They cannot be properly investigated using analytical thinking and techniques; rather, they require systems thinking to achieve a full understanding of their dynamics and behaviour.

War has always been a complex phenomenon, yet military practitioners and theorists have often either ignored this reality or argued that a scientific approach along classically Newtonian lines could reduce this complexity to a trivial status or eliminate it all together. Thus, for example, Marshal Saxe in the mid-18th century wrote that "war can be made without leaving anything to chance and this is the highest point of perfection and skill in a general." He goes on to assert that a skilful general could make war all his life without being forced into a battle.[17] Both Heinrich von Bulow and Antoine-Henri Jomini in the early 19th century argued that strategy could be rendered quantifiable and mathematical. Indeed, the hope of many military theorists in the 18th and 19th centuries including Puysegur, Maizeroy, Lloyd, Guibert, as well as Jomini and von Bulow was to find a set of rational principles based on hard quantifiable data that might reduce the conduct of war to a branch of the natural sciences from which the play of chance and uncertainty could be entirely eliminated. Jomini, at least, continued to have considerable influence on military thinking through to the mid-20th century.

In our own time, many proponents of the so-called revolution in military affairs believe that technology would significantly reduce chance and friction. This was the argument made by Admiral Bill Owens in *Lifting the Fog of War* and lies at the core of the reasoning of those advocates of Network Centric Warfare (NCW).[18] NCW develops a perspective that clearly foresees that the future of military strategy is centrally premised on information and its integration with systems of weaponry and warriors for a seamless sensor-to-shooter flow. This is only the most recent example of

a phenomenon described by Beatrice Heuser, according to which military practitioners tend to be in search of teachable and learnable rules of thumb that can be applied to a wide range of difficult situations and can help them find shortcuts to decision-making in stressful combat situations.[19] Allan Beyerchen adds that just as in most other activities, in war too, the authoritative guide for Western thinking has been that of linearity.[20] Such thinking has a degree of merit in the tactical sub-system, but none in the operational and strategic sub-systems.

Clausewitz was the major exception to this line of thinking and, as early as the 1820s, he was already developing a theory of war in opposition to the existing paradigm of Newtonian physics and the rationalistic tendencies of the Enlightenment era (1687-1800). In response to the Positivistic approaches of Jomini and von Bulow, Clausewitz replied that war was not susceptible to their linear thinking. On the contrary, Clausewitz's major treatise is suffused with an understanding that every war is an inherently complex, non-linear phenomenon. In a profoundly unconfused way he understood that seeking exact, analytical solutions does not fit the reality of the problems posed by war. Unlike a number of Clausewitz's contemporaries (and many more who followed them) influenced by the philosophy of the Age of Reason, he was not seeking "laws" governing war. He stood in direct opposition, for example, to the contention of Baron de Jomini that all strategy is controlled by invariable scientific principles only awaiting discovery by the rational mind.[21] Clausewitz responded by saying:

> *It is really astonishing to find people who waste their time creating abstract formulas when one bears in mind that precisely that which is most important in war and strategy, namely the great particularity, peculiarity and local circumstances, escape these abstractions and scientific systems.*[22]

He reinforced this sentiment replying:

> *In war everything is uncertain and calculations have to be made with variable quantities. Other theorists direct their inquiry exclusively towards physical quantities, whereas all military action is intertwined with psychological forces and effects. They consider only unilateral action whereas war consists of a continuous interaction of opposites.*[23]

He goes on to emphasize this point, insisting upon the importance of interactivity's role in properly defining war:

> *War belongs to the province of social life. War is not an activity of the will exerted upon inanimate matter as in mechanics, or upon a living but passive yielding subject like the human mind as in the fine arts, but against a living and reacting force. Strictly speaking war is neither art nor science, rather it is part of man's social existence.*[24]

Clausewitz's insight has very recently been echoed by the American strategic theorist Barry Watts who advises that human limitations, informational uncertainties and non-linearity are not pesky difficulties better technology and engineering can eliminate, but built-in or structural features of the violent interaction between opposing polities pursuing incommensurate ends we call war.[25] Even the eminent quantum physicist and discoverer of the Uncertainty Principle, Werner Heisenberg, in a rare excursion into international relations theory, felt compelled to point out that you cannot have causality as we have traditionally understood it. A cause cannot lead to a predictable effect. And war is notoriously unpredictable, particularly in its consequences.[26]

To remind the reader, what follows in this section is a discussion of war as a complex adaptive system, defined as the continuation of policy with the admixture of other means. Furthermore, war

is considered as an institution in international relations, one that has systemic, indeed institutional consequences for social life and politics both internationally and domestically. Warfare refers more narrowly to the actual conduct of war principally in its military dimension through the application and execution of strategy, operational art and tactics. Thus, as Vice-Admiral Arthur Cebrowski tells us, war is about more than combat. War entails the interrelated actions and support of diverse people, public and private organizations and institutions.[27]

In the General System of War and Conflict the all-encompassing system is that of policy; that is, the expression of the desired end-state sought by government and the accompanying guidance for the employment of the instruments of power including military force. In the 21st century security environment we should carefully heed Anthony Echeverria's advice when he declares that the term "government" includes not just heads of state, but any ruling body, any agglomeration of loosely associated forces or any personified intelligence that endeavours to use war to accomplish some political purpose.[28] It is also important for military strategists to understand and accept that whereas policy cannot emerge save by means of politics, politics can fail to produce sound policy. This is a ubiquitous problem for politicians and strategists alike.

Nonetheless, the paramount role of policy in the General System of War and Conflict cannot be vouchsafed. Crucially important here is Clausewitz's insightful observation that the main lines along which military events progress, and to which they are restricted, are political lines that continue throughout the war and into the subsequent peace. The logic of war is supplied by policy, whereas the grammar is supplied by strategy, operational art and tactics. "The political element does not force itself deeply into the details of war, but it does influence the plan of war as a whole and that of the campaign and often even the battle."[29] In this

dynamic, strategy supplies the translation function between the logic and grammar of war. At one end of the translation bridge that is strategy, are civil-military relations, where grand strategy and its subset military strategy is formulated. At the other end is the relationship between the operational sub-system with its nested tactical sub-system where actions are designed to produce the desired strategic effect to enable political outcomes. Thus, as Hew Strachan claims uncompromisingly, where the principle purpose of effective civil-military relations is national security, its output is strategy.[30]

In the process of dialogue that occurs on the strategy bridge, both the military strategist and the civilian politician need to adjust their preferences so as to meet the demands of the other. But a key function of the dialogue is to ensure that the spokespeople for policy and military power each respect the core integrity of the logic or grammar of the other. However, as Colin Gray argues, there is no escaping the fact that if the strategist is convinced that the extant strategy is failing, or missing from action, the message to their political masters has to be that their policy must alter. In other words, it is not possible for a responsible military strategist to confine his/her judgement strictly to the military sphere. If that sphere is discordant with the political demands that equate to policy, then either the military or policy plot must be changed if success is to be achieved.[31] This is precisely what Henry Kissinger was getting at when he wrote:

> *A complete separation of military strategy and policy at the highest levels can only be achieved to the detriment of both. It causes military power to become identified with the most absolute application of power and it tempts diplomacy into an over concern with finesse. Since the most difficult problems of national policy are in the area*

where political, economic, psychological and military tors overlap we should give up the fiction that there is such a thing as purely military advice.[32]

All of these sound theoretical considerations must nonetheless take into account a more mundane but equally important factor. In the final analysis the strategist must always be aware that his/her rational world is usually dominated in practice, in a democracy at least, by the a-strategic machinations of domestic politics. When it comes to the defence budget, neither the executive, nor the legislative branches of government functions with their eye on the ball of strategy. Instead, defence expenditures are keyed to almost every influence other than the strategic: institutional clout, regional political influences, fashionable nostrums, but not military strategy. As Colin Gray comments, this is a fact, not really a complaint.[33]

The strategic sub-system is the dominant one below the level of policy because it is here that the conflict's political goals are defined in instrumental terms useful for the military (and other non-military actors in a Comprehensive or Whole of Government Operation). This is usually a problematic process since the criteria for politics are subjective, ambiguous and indeterminate, while those for the military tend to be objective, concrete and relatively time-limited. That is to say, the military is predisposed to seek clear, early end-states. As mentioned, strategy is the bridge between policy and the operational sub-system. As already defined in the introduction, strategy is the art of distributing and applying military force, or the threat of such action, to fulfil the ends of policy.

A major factor contributing to the difficulty of understanding and "doing" strategy is that it is virtual behaviour, it has no material existence. Strategy is an abstraction, though it is vastly more difficult to illustrate visually than are other vital abstractions like

love or fear.[34] The final factor making strategy difficult is the large number of dimensions that must be taken into account when one is contemplating, formulating and executing this function. These factors will be enumerated in detail in Section Three.

The operational sub-system is nested within the strategic in the General System of War and Conflict. It is here where the coherent accomplishment of strategic objectives through the employment of tactical resources is achieved by the conduct of major operations and campaigns. Operational commanders employ operational manoeuvre consisting of the combination of mass and mobility to achieve their goals.

Operational art is a creative enterprise within the operational sub-system comprising one reciprocal discourse between the National Command Authority and the operator-designer focusing on the design of the operational concept, and another reciprocal discourse between the operator-designer and the commanders of the tactical components concentrating on the detailed planning of the manoeuvre scheme.

Tactics are the final nested sub-system in the General System of War and Conflict. Tactics are obviously important because only they deliver concrete success within the context set by strategy. Neither strategy nor tactics, according to Gray, has integrity one without the other. Strategy bereft of tactics literally cannot be done, while tactics innocent of strategy have to be nonsensically aimless.[35] Furthermore, any applied military activity is inherently tactical. The fundamental concept of strategy clearly states that strategy is the comprehensive employment of force, whereas tactics is the immediate employment of forces and weapons. Thus, the immediate employment of any force or weapon is tactical regardless of its name or title. While the employment is tactical, the ultimate effect, considered in conjunction with the employment of other forces and elements of power, is strategic.[36]

To reiterate what has been argued above, taken as a whole the General System of War and Conflict is a complex adaptive system and the complexity inherent in it increases as one ascends upwards through the nested sub-systems. In fact, although the tactical sub-system is very complicated and is characterized by the factors of fear, danger, fatigue and extreme physical and mental exertions, it is much less complex than the operational and strategic sub-systems. Consequently, as Barry Watts points out, the cognitive skills exercised by combatants with tactical expertise in any area of modern warfare differ fundamentally from those required of operational artists and competent strategists.[37] As a result, there is a cognitive boundary between these sub-systems as illustrated in Figure 2.

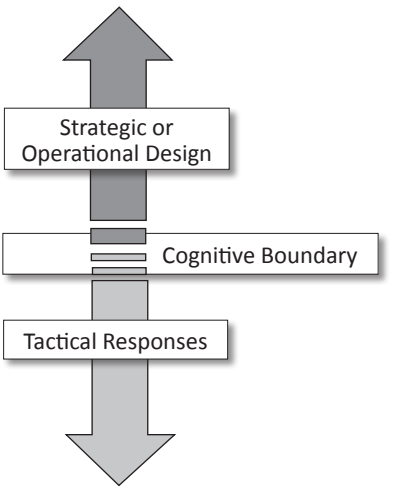

FIGURE 2

Once across this boundary the cognitive skills required are based on systems rather than analytical thinking. Systems thinking is the practice of thinking that takes a holistic view of complex events or phenomena seemingly caused by a myriad of isolated, independent and usually unpredictable forces or factors. Systems thinking

views all events and phenomena as "wholes" whose components interact according to systems principles such as openness, purposefulness, multi-dimensionality and emergent properties as discussed most cogently by Jamshid Gharajedaghi in his *Systems Thinking: Managing Chaos and Complexity.*[38] This mode of thinking recognizes that systems ranging from soap bubbles to galaxies, ant colonies to nations, can be better understood only when their wholeness (identity and structural integrity) is maintained, thus permitting the study of the whole instead of the properties of their components. Systems thinking concentrates on the relationships among these components above all.

Systems thinking is practiced using specific methodologies such as those developed by Barry Richmond and Russell Ackoff.[39] A particularly powerful methodology is Soft Systems Methodology (SSM) developed by Peter Checkland and his colleagues at the University of Lancaster in the UK. An excellent history of the systems movement and a complete account of how to employ SSM is contained in Checkland's book *Systems Thinking, Systems Practice,* published by John Wiley in 1999. Each of these various methodologies, but especially SSM, have contributed to the varieties of systemic operational design and strategy formulation employed in the US, UK and Australian militaries. They are only now attracting some attention in the Canadian Forces, a situation that must be rectified sooner rather than later. Section Four will discuss the concept of Military Design in more detail.

SECTION TWO
Strategic Culture

Good strategy presupposes good sociology
and good anthropology.
Bernard Brodie

A more precise way of analyzing the admittedly profoundly difficult issue of defining, describing and explaining any given nation's, or political community's, "way of war" is through the construct of strategic culture. Strategic culture refers to the socially transmitted habits of mind, tradition and preferred methods of operations that are, more or less, specific to a particular security community. It is a product of a particular historical experience that has been shaped by a more or less unique, though not necessarily unvarying, geographic context. Each strategic culture is inclined to create what purports to be general theories on the basis of national experiences and circumstances. Strategic culture can therefore be defined as:

> *An integrated system of symbols (argumentation, structure, language, analogies, metaphors, etc.) that acts to establish pervasive and long-term strategic preferences by formulating concepts of the role and efficacy of military force in political affairs. The strategic culture thus established reflects national preconceptions and historical experience as much as it does purely objective responses to any given threat environment.*[40]

Strategic culture is a long-term, slow growth phenomenon not particularly dependent on specific individuals or even any single, significant event. In their book, *The Making of Strategy*, Williamson Murray and his colleagues argue that there are four

major factors that contribute to the evolution of a strategic culture.[41]

- Geography: the size and location of a nation are crucial determinants of the way policy-makers and strategists think about security and strategy. This, of course, includes all of the material resources available to the nation.

- History: historical experience influences strategic culture almost as strongly as geography.

- Religion, Ideology and Culture: taken together these three comprise something the Germans have captured in a single expressive word – *Weltanschauung* – a worldview or outlook on the world. The influence of this concept on strategic culture is both elemental and vast.

- Governance: the structure of government and military institutions plays a crucial role in the development and operation of a strategic culture.

Colin Gray's own list of factors is the same, with the addition of one:

- Geography: this is the most fundamental of the factors that condition national outlooks on security problems and strategic solutions.

- History.

- Culture: the influence of national cultures upon choices for, and performance in, statecraft, war and warfare is profound.

- Governance.

- Technology: relative technological competence is important. However, technicism refers to the disorder when that which is only technical displaces, and effectively substitutes for, that which has to be considered tactically, operationally and strategically in far more inclusive terms.

Combining these two approaches, a given nation's, or political community's, strategic culture needs to be explained in terms of five factors – geography, history, culture, governance and technology. John Lynn, in his *Battle: A History of Combat and Culture From Ancient Greece to Modern America,* provides a fascinating account of how individual strategic cultures are also shaped by what we might call the "spirit of the age or era" across whole regions or even civilizations. Thus, when considering, say, Europe, we need to factor in the impact of the transition of all states considered "European" from the Medieval era through the Enlightenment and the Romantic to the Modern and, perhaps, Post-Modern periods. These philosophical/intellectual/cultural movements influence the perception and/or reality concerning all five factors in each individual state in similar, though not exactly the same ways.[42]

As the General Theory of Strategy constantly reminds us, military strategy always has an adversarial aspect – there is an opponent. Strategists must never forget that this opponent always has a "voice." That is, our strategy is invariably being contested by the enemy's. Obviously, the enemy's strategy is shaped in analogous ways to ours by his/her peculiar strategic culture. So, while it is of the utmost importance that we thoroughly understand our own strategic culture, it is equally important to seek as great an understanding of our opponent's strategic culture as possible.

SECTION THREE
Military Strategy

If Clausewitz is the master when it comes to the theory of war, then Colin Gray is his emissary when it comes to the subject of the theory of strategy.

Bill Bentley

The planning for, direction and subsequent exploitation of actions in the operational and tactical sub-systems are the function of the strategic sub-system. It is important to understand that strategy is not action at a higher level. Operations and tactics are action behaviours; albeit ones requiring ideas, doctrine, organization and plans. Strategy is not itself an action behaviour, it is the translation function, in theory and practice, of operational and tactical action into strategic consequences, ultimately for political effect. Put another way, once the political objectives have been set, strategy is the function that delivers the theory of victory. Barry Watts expresses this more prosaically when he says that strategy is a heuristic in the sense of being a guess as opposed to a solution in an engineering sense.[43] Like any theory, strategy's theory must be tested to be verified or falsified. The test is made in the operational and tactical sub-systems. The testing process through battle and manoeuvre is both iterative and recursive, with adjustments being made along the way.

The military strategist, functioning in the three domains of the cognitive, physical and information planes, must take into account all of the dimensions of strategy in a comprehensive and inclusive manner.[44] Clausewitz himself identified these dimensions as moral, physical, mathematical, geographical and statistical.[45] More recently Sir Michael Howard, in an important essay written in 1979, suggested that there were four broad dimensions

in strategy. Sir Michael's intent with this piece was to counter what he perceived to be the growing over-emphasis in the US on technology as the major driver of military strategy. Notably, this was observed well before the so-called Revolution in Military Affairs occasioned by the emergence of Network Centric Warfare in the 1990s. Howard's riposte was to argue that strategy comprised operational, logistical, technological and social dimensions. All were important but it was especially the latter dimension that was pivotal in that this was the dimension that introduced true complexity into the strategic equation.[46] In 1999, in his seminal book *Modern Strategy,* Colin Gray picked up on the theme of the multi-dimensional nature of strategy contending that there were, in fact, 17 dimensions to be considered grouped into three categories – People and Politics, Preparation for War and War Proper.[47]

A decade later, Gray recast these 17 dimensions into what he believes constitutes a General Theory of Strategy. He makes the valid point that this is not theory in the sense employed in the natural sciences, where the goal is to arrive at laws that govern nature. Rather, his theory is in line with the more common usage in the social sciences where theory is usually understood as the search for meaning. Gray's General Theory comprises 21 dicta, understood as short statements, each expressing a general truth or principle. Strategy formation is thereby understood as a process of devising means to achieve a prescribed end, always integrating all 21 dicta into a strategic plan that reflects the imperatives these dicta insist upon. This General Theory is summarized here, after which the concept of "strategic effect" – the end-state of any valid strategy – will be explained.

Strategic Dicta

- Military strategies must be nested in a more inclusive framework, if only to lighten the burden of support for

policy they are required to bear. A security community cannot design a strictly military strategy. No matter the character of the conflict, even if military activity is by far the most prominent of behaviours, there must still be political, diplomatic, social-cultural and economic aspects to the war. This is grand strategy.

- At least in the Western world today the consideration and employment of the military instrument is beset with historically unprecedented cultural, political and legal constraints. It is particularly important that understanding of the nature and purpose of military strategy should not decay.

- The metaphor of a strategy bridge is to offer an effective way in which strategy's function can be explained. Both lower levels of the application of force, operational and tactical, ultimately have political meaning through the strategic effect they produce, but neither is concerned directly with the political consequences of their activity.

- Strategy serves politics instrumentally by generating net strategic effect. Polities use their tactical behaviour to secure a strongly net positive strategic effect – to allow for the enemy's strategic effect – in order to yield tolerable or better political consequences.

- Strategy is adversarial. It functions in both peace and war and it always seeks a measure of control over enemies. The immediate purpose of strategy is to control the enemy's choices. The ultimate purpose, of course, is to exploit that purpose for our political purposes.

- Strategy usually requires deception, is paradoxical and frequently is ironic.

- Strategy is human. The General Theory of Strategy must offer explicit recognition of the permanent significance both of people in general and of named individuals also.

- The meaning and character of strategies are driven, though not dictated and wholly determined, by their contexts, all of which are constantly in play. These contexts are political, social-cultural, economic, technological, geographical and historical.

- Strategy has a permanent nature while strategies have a variable character driven, but not mandated, by their unique and changing contexts, the needs of which are expressed in the decisions of unique individuals. Once one grasps the elementary, indeed elemental, distinction between the singular General Theory of Strategy and the plural, historically specific grand, operational, joint and single geography strategies, one has in hand the key necessary to unlock much that otherwise would be confused, not to say mysterious.

- Strategy typically is made by a process of dialogue and negotiation. Players in the process of strategy-making seek advantage, as well as the avoidance of disadvantage, for the interest of their particular tribe in the more or less loose coalition of loyalties and cultures that is every government or governing entity.

- Strategy is a value-charged zone of ideas and behaviour. Given that moral standards, widely variable as they assuredly are, have been, and will be, integral to all human cultures, and given that all strategists have to be enculturated people, there can be no evading a moral contribution to strategy-making and execution.

- Historically specific strategies are often driven by culture and personality, whereas Strategy in general theory is not. General theory Strategy is culture-neutral as well as oblivious to the personal traits of individual human players; strategies, however, are anything but naked of such detail. Strategic culture always shapes these strategies to a greater or lesser extent.

- The strategy bridge must be held by competent strategists. Because strategy is uniquely difficult among the subsystems of war, few indeed are the people able to shine in the role. Their numbers can be increased by education, though not by training, and not at all reliably by the experience of command and planning at warfare's operational and tactical levels.

- Strategy is more difficult to devise and execute than are policies, operations and tactics – factors of all kinds comprise phenomena inseparable from the making and conduct of strategies. By definition the strategy bridge has to cope with more traffic of all kinds than must any other relevant behaviour, political, operational and tactical. The strategist must cope with the desires of politicians, the interests and cultures of institutions, as well as the established bureaucratic processes of governance, and that is at but one end of the bridge. At the other, the strategist will be assailed by feedback, reliable or otherwise, from the sharp end of conflict.

- Strategy can be expressed in strategies that are: direct or indirect, sequential or cumulative, attritional or manoeuverist-annihilating, persistent or raiding, offensive or defensive, symmetrical or asymmetrical, or a complex combination of these nominal but often false alternatives.

That is, the six binaries are not exclusive alternatives. More often than not strategists combine these apparent choices, even though they are unlikely to appreciate what they are doing.

- All strategies are shaped by their particular contexts, but Strategy itself is not. To understand the general nature of Strategy, to have in hand a theory that explains what it is, what it does, and how it does it, is to be well equipped to draft strategies for each of the five geographies (land, sea, air, space, cyberspace). The geophysical specifics of each geographical environment, together with the shifting technological context, must yield both opportunities and constraints unique to every time and geography.

- Strategy is an unchanging, indeed unchangeable, human activity in thought and behaviour, set in a variably dynamic technological context. The General Theory of Strategy is content to note the vital permanent reality of a technological context to all forms of warfare. However, the theory does insist that strategy is a primarily human activity in a technological context, not the other way around.

- Unlike Strategy, all strategies are temporal. Time is not a defining feature of Strategy, but it is universally so important that it cannot be omitted from the General Theory of Strategy. The strategic timeframe is longer than the operational and the operational is longer than the tactical. This is a significant reason why the strategist is in need of greater mental and moral fortitude than is the operational level commander, let alone the tactician.

- Strategy is logistical. If armed forces cannot be moved and supplied, they cannot fight and fighting is the most core

of their competencies. As General Archibald Wavell specified: "A real knowledge of supply and movement factors must be the basis of every leader's plans; only then can he know how and when to take risks with those factors; and battles and wars are won only by taking risks."[48]

- Strategy is the most fundamental source of military doctrine, while doctrine is a notable enabler of, and guide for, strategy. Just as the General Theory of Strategy shapes and even controls strategies at their several levels and of different kinds (overall military, operational and in recent times usually joint, functional, single-geography and Comprehensive) so also should it shape and control military doctrine at all levels and of all kinds.

- All military behaviour is tactical in execution, but must have operational and strategic effect, intended and otherwise. This dictum asserts that the use of any force or weapon is the realm of tactics, while the net worth of that fighting, positive or negative, belongs to operations and strategy.

Boyd's OODA Loop

Gray's General Theory of Strategy, comprising these 21 dicta, is a very impressive intellectual edifice. It is sufficient to form the foundation upon which to develop competent strategists when combined with education, experience and practice. It is not, however, the only such general theory. An equally compelling theory is that developed by the US Air Force Colonel John Boyd. The Boyd Loop, or OODA (Observe, Orient, Decide, Act) Loop, covers, in essence, although not at first glance, much of the same ground as Gray. Useful insights can be gained by reflecting on, comparing and contrasting both theories. Certainly, they are both vitally

concerned with generating the centre of gravity of all strategy-making – strategic effect. Before turning to this subject, Boyd's theory will be reviewed here.

Boyd's OODA cycle theory was instrumental in highlighting the iterative nature of war. It recognized that the result of actions was not just a direct effect on the adversary, but his/her adaption to our actions, and his/her subsequent actions, or at least our observation of them, became part of the next input. This sensitivity to initial conditions that was so starkly manifest in the OODA cycle of combat was nothing less than the growing recognition and reaffirmation of the original Clausewitzian identification of the immersive context provided by complexity and non-linearity. According to Manabrata Guha, Boyd's theory thus pointed to not simply the fact that warfare – the conduct of war – was, in all respects, a complex and non-linear activity, but also that war itself was a complex and non-linear phenomenon.[49]

Inspired by his experience in aerial combat in the Vietnam War, and drawing heavily on the emerging scientific and other scholarly literature, Boyd constructed a very sophisticated theoretical construct known simply as the OODA Loop. As described by his colleague and co-theorist Chuck Spinney, "the OODA Loop is the product of a co-evolutionary interaction. Since all co-evolutionary processes embody positive as well as negative feedback loops, the OODA Loop is necessarily a non-linear system and will exhibit emergent behaviour – in short, a complex adaptive system."[50] The complete OODA Loop is depicted in Figure 3.

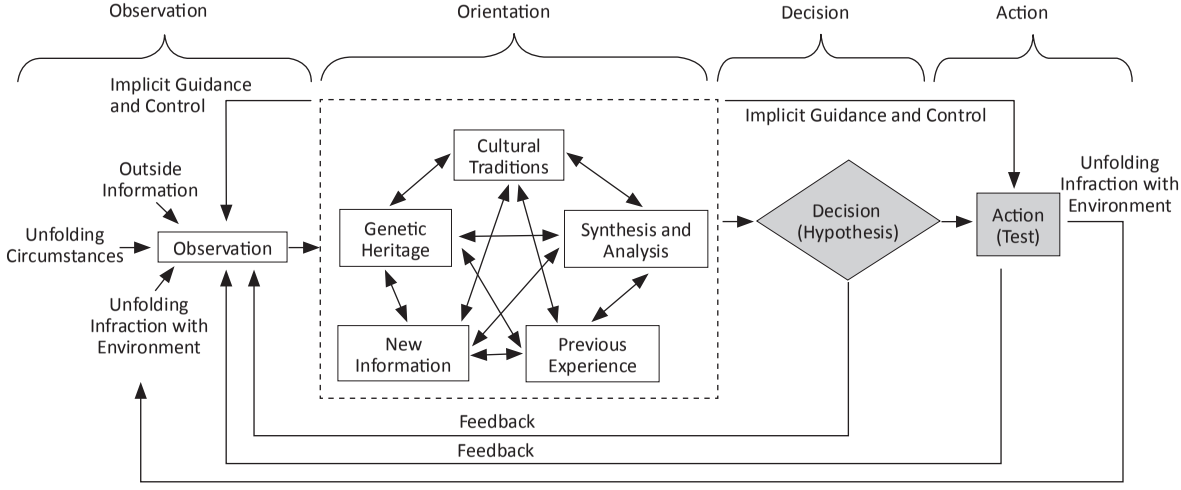
Observation
Orientation
Decision
Action
Implicit Guidance and Control
Outside Information
Unfolding Circumstances
Observation
Unfolding Infraction with Environment
Cultural Traditions
Genetic Heritage
Synthesis and Analysis
New Information
Previous Experience
Implicit Guidance and Control
Decision (Hypothesis)
Action (Test)
Unfolding Infraction with Environment
Feedback
Feedback

FIGURE 3

The Observe – Orient – Decide – Act process seeks to model the decision-making cycle a combatant goes through when engaged in warfighting in any of the sub-systems of the General System of War and Conflict. It is effectively a cognitive theory that can be applied in many situations, which accounts for its current enthusiastic adoption in business management literature, as well as its resurgence among military analysts in the West. Colin Gray has endorsed Boyd's work as follows:

> *Boyd's Loop can apply to the operational, strategic and political systems as well as the tactical. Boyd's theory claims that the key to success in conflict is to operate inside the opponent's decision cycle. Advantages in observation and orientation enable a tempo in decision-making and execution that outpaces the ability of the foe to react effectively in time. This seemingly simple formula was duly explained and copiously illustrated by Boyd in many briefings within the US defence community over the course of 20 years. The OODA Loop may appear to be too humble to merit categorization as grand theory but that is what it is. It has an elegant simplicity, and extensive domain of applicability, and contains a high quality of insight about strategic essentials, such that its author well merits honourable mention as an outstanding theorist of strategy.*[51]

In the Observation phase the actor (or system) absorbs information from the environment, his/her situation within it, and the actions of the adversary. The Orientation phase requires the actor to interpret the information through a process of analysis and synthesis that creates meaning, discerns existing opportunities and threats, and provides a range of responses to plan and execute. Next, in the decision phase, the actor commits to a course of action that is subsequently carried out in the following phase. Not only does the actor return to the observation phase on the basis

of new information following the action phase, but feedback loops are operating between all stages in the cycle and the observation phase as the actor continually absorbs new information in order to adjust his/her framework and behaviour accordingly.[52]

Superficially, the OODA Loop resembles a typical cybernetic loop whereby a system adjusts its behaviour to increasing information from its interaction with its environment in order to meet the desired objective. The crucial difference is the stage Boyd described as the most important – Orientation. Orientation actually exerts implicit guidance and control over the Observation and Action phases, as well as shaping the Decision phase. Furthermore, the entire Loop is an ongoing, many-sided, implicit cross-referencing process of projection, empathy, correlation and rejection, in which all elements in the Loop are simultaneously active. In this sense, the Loop is not truly a cycle and is presented here sequentially only for the convenience of exposition.

With the Orientation phase, Boyd allows for the framework itself to be modified through the comparison of observations of the external world with the system's internal framework and, thus, for the system to act in new, unforeseen ways. He distinguishes between two different processes that occur during Orientation – analysis (understanding the observations in the context of pre-existing patterns of knowledge) and synthesis (creating new patterns of knowledge when existing patterns do not permit the understanding needed to cope with novel circumstances). At the tactical level, this process actually involves a decision-making process known as Recognition-Primed Decision-Making where the decision is not based on a rationalistic, linear approach, but rather occurs when the actor perceives patterns previously experienced and adjusts those patterns mentally to adapt to the new situation. However, in more complex circumstances such as at the operational and strategic sub-systems, synthesis and learning are achieved over

extended periods of time through systems thinking and applied systems methodologies.[53]

Strategic Effect

Strategic effect, the dynamic and more than a little unpredictable result of the strategist's labours, is the product of every element specified as acting and interacting in the many dicta that comprise the complete General Theory of Strategy.

What does strategy produce – strategic effect. Performance of the strategic function can only be to generate desired effect upon the future course of events. The subject is as simple as this, even though all matters of strategy design, decision-making and execution are inherently complex and typically are uncertain far into the zone of unpredictability. Strategic effect is one among those mysterious qualities that cannot be observed and measured directly. But even if we are unable to record strategic effect exactly, we can and must try hard to recognize evidence of its current condition.

Strategic effect is not at all to be compared to the now-defunct idea of Effects-Based Operations (EBO). EBO was an approach dominated by linear, Newtonian thinking and was seen as cumulative and eminently measurable. Strategic effect is certainly cumulative but much less amenable to quantification. In some measure its realization is an art form dependent on intuition, experience and above all, professional judgement.

Although the interplay of all the dicta of Strategy is required to produce the desired effect, its most tangible manifestation is produced by military force applied in the tactical and operational sub-systems. Armies, navies and air forces, now most commonly employed in joint operations, generate concrete strategic effect. Usually this is a relatively long-term process requiring large forces employed both sequentially and simultaneously.

However, it is here where Special Operations Forces (SOF) play a rather unique role. They are crafted, organized and trained to deliver tactical blows that have a more immediate and perhaps more telling direct strategic effect than any other tactical action, large or small. Recalling the non-linearity and non-proportionality of war, SOF are always designed to produce non-proportional results in shorter timeframes than conventional forces. The link, therefore, between this component of the tactical sub-system and the strategic sub-system is more often direct than not. In fact, the use of SOF in direct support of the operational sub-system is usually problematic – in short, a potential waste of valuable time, effort and scarce resources. Moreover, proper use of this specialized, unconventional asset is unalterably dependent on a clear understanding of both military strategy and the General System of War and Conflict among military strategists, politicians, policy-makers and civilian officials alike.

Two Kinds of Strategy

Notwithstanding Colin Gray's appreciation for, and understanding of, Clausewitz, he seems to have missed, or at least seriously underestimated, the significance of the Prussian's distinction between two "kinds" of war and the direct impact this has on strategy. According to Clausewitz, "as war is no act of blind passion, but is dominated by the political object, the value of that object therefore, determines the measure of the sacrifices by which it is to be purchased."[54] The political object, therefore, determines whether the war will be unlimited or limited and that there are logically associated "kinds" of strategies depending on what type of war is being prosecuted. In unlimited war a strategy of annihilation is followed whereby the aim is to render the opponent prostrate and once completely defeated, all of the victor's demands will be imposed after the unconditional surrender of the enemy. In this strategy the goal has to be to seek decisive battle(s) and

nothing is decided until this has successfully occurred. However, if the objective is more limited, the appropriate approach would be the bi-polar strategy whereby the strategist operates sequentially or simultaneously on either the battle pole or the non-battle pole. On this latter pole a variety of tools would be used to help induce the opponent to come to terms by negotiating a settlement. These tools included diplomacy, economic coercion and operational pauses. Regardless of what kind of strategy is employed, the end result is always the same: generating the necessary strategic effect to enable the achievement of some political end-state.

The German military historian Hans Delbruck elaborated on this idea of two "kinds" of strategy early in the 20th century. Delbruck argued that the German General Staff had misinterpreted Clausewitz's arguments when they maintained that the great Prussian demonstrated in his theory that only a strategy of annihilation could offer success. Delbruck attempted to convince that Staff that a Clausewitzian bi-polar strategy was the only way to avert a military and, therefore, political catastrophe. In the 1920s, Aleksandr Svechin expanded greatly upon the distinction between the two strategies in his book *Strategy*. In the vast majority of military theorizing, however, until the advent of nuclear weapons, the strategy of annihilation overshadowed the alternative to the point of rendering it invisible.

In the aftermath of the Second World War, a number of theorists began to question the near monopoly held by the strategy of annihilation in the minds of most strategists, arguing that such a strategy in the presence of nuclear weapons was more than meaningless. Bernard Brodie, Raymond Aron, Charles Osgood and Henry Kissinger, among others, began developing a theory of limited war drawing heavily on Clausewitz's second kind of strategy. In their view, political objectives would have to be kept relatively modest and they could not be pursued through a strategy of annihilation.

The bi-polar strategy, admitting the utility of carefully calibrated force, also provided for non-battle means such as diplomacy, economic embargos, information operations and peacekeeping to bring the opponent to the negotiating table. Nonetheless, throughout the Cold War, for as long as the prospect of a fight to the finish with the Soviet Union, however increasingly remote, remained a possibility, the strategy of annihilation continued to be seriously contemplated.

The end of the Cold War has brought about a profound shift in international relations and the associated security environment. Globalization, the decline of intensely contending political ideologies and the changing role of territory in the state's security considerations have increasingly rendered contemplating political objectives requiring a strategy of annihilation for their realization problematic in the extreme. At the same time political fragmentation, ethnic/religious tensions and a host of demographic/ecological/environmental factors have produced a destabilization of the international system calling for the continued use of force, from time to time; a use contained and shaped by the bi-polar strategy.

According to Beyerchen, we are in the early stages of the tectonic shift into World War IV, the epoch when the controlling amplifier will be human and biological rather than organizational and technological. We can postulate a new vision, one that shifts from the traditional linear constructs to one that is amoebic in shape, distributed, dispersed, non-linear and essentially formless in space and unbounded in time. This type of conflict will be "psycho-cultural" war.[55]

"Psycho-cultural" war causes a shift in classical centres of gravity from the will of governments and armies to the perceptions of populations, both ours and theirs. Victory will be defined more in terms of capturing the psycho-cultural high ground rather than the geographic high ground. General Sir Rupert Smith describes

this new era in very similar terms in his groundbreaking book, *The Utility of Force: The Art of War in the Modern World:*

> *The new situations were always a complex combination of political/cultural circumstances, though there appeared to be little comprehension as to how the two became intertwined. Nor, far more serious for the military practitioner, how they constantly influenced each other as events unfolded. We are now in a new era of conflict, in fact a new paradigm, which I define as "war amongst the people;" one in which political and military developments go hand in hand.*[56]

The new paradigm of "war amongst the people" is based on the concept of a continuous criss-crossing between confrontation and conflict, regardless of whether a state is facing another state or a non-state actor. Rather than war and peace, there is no predefined sequence, nor is peace necessarily the starting point or the end point. Conflicts are resolved but not necessarily confrontations. Unlike industrial war, in "war amongst the people" no act of force will ever be decisive. According to Smith, winning the trial of strength will not deliver the will of the people, which should be the only true aim of any use of force in today's conflicts.

Smith's paradigm of "war amongst the people" can be summarized in four points.

- The ends for which we fight are changing from the hard objectives that decide a political outcome to those of establishing conditions in which the outcome may be decided.
- We fight amongst the people, not on the battlefield.
- Conflicts tend to be timeless, even unending. We fight so as to preserve the force rather than risking all to gain the objective.

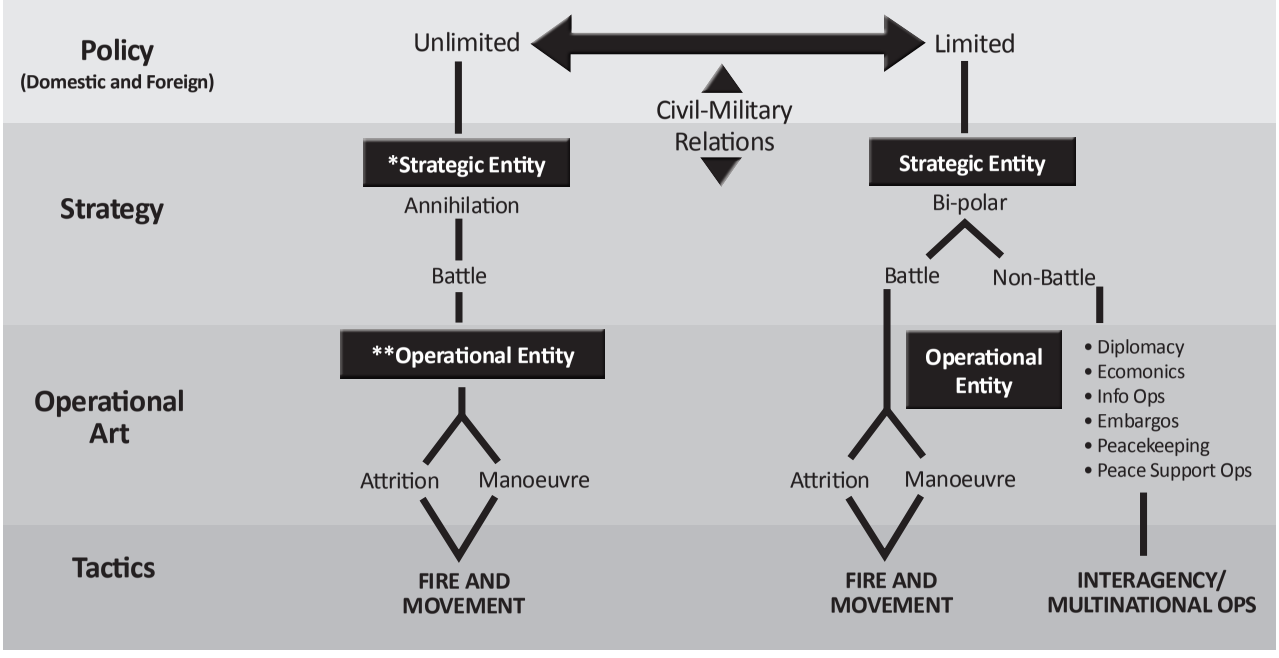
Policy
(Domestic and Foreign)
Unlimited
Limited
Civil-Military
Relations
Strategy
*Strategic Entity
Annihilation
Battle
Strategic Entity
Bi-polar
Battle
Non-Battle
Operational
Art
**Operational Entity
Attrition
Manoeuvre
Operational
Entity
Attrition
Manoeuvre
• Diplomacy
• Ecomonics
• Info Ops
• Embargos
• Peacekeeping
• Peace Support Ops
Tactics
FIRE AND
MOVEMENT
FIRE AND
MOVEMENT
INTERAGENCY/
MULTINATIONAL OPS

FIGURE 4

- On each occasion new uses are found for old weapons and organizations which are the products of industrial war.[57]

Clearly the new security paradigm calls for the employment of the bi-polar strategy, always integrating all 21 strategic dicta of the General Theory of Strategy, contextualized for every situation. This strategy is depicted in the Figure 4 alongside its now dormant sister strategy.

Now, in the operational sub-system of the bi-polar strategy, campaigns on the battle pole can be as large and violent as any in the strategy of annihilation – witness Gulf War campaigns 1 and 2 in the ongoing Iraqi conflict. Unlike the strategy of annihilation, however, where economic, diplomatic and other national means of power are subsidiary to, and act in support of, military operations, bi-polar campaigns are conducted simultaneously with non-battle activities and are often in direct support of them. Strategic effect is still required and sought by the strategist but it now requires the careful coordination and integration of both the battle and non-battle poles. SOF can often play a very prominent part in such a strategy when recourse to the battle pole must be carefully calibrated to produce immediate, yet subtle, strategic effect.

The conduct of a bi-polar strategy is synonymous with a Comprehensive or Whole of Government Operation because much of the activity on the non-battle pole is the responsibility of statesmen, politicians, diplomats, development officials, economists and police forces. What is required, but sadly still largely missing, is a deep and mutual understanding by all actors of the General System of War and Conflict and the General Theory of Strategy. This understanding is important throughout the system but is imperative at the politico-strategic level where sustained, determined and inspired leadership is the *sine qua non* for political success.

By now it should be patently clear that developing senior leaders capable of strategic thinking, as well as strategy formulation and execution is a daunting challenge. This monograph will conclude with a discussion of how this must be tackled.

SECTION FOUR
Developing Strategic Thinkers and Military Strategists

If we pursue the demands that war makes on those who practice it, we come to the region dominated by the powers of intellect.

Carl von Clausewitz

At the risk of being unduly repetitive, the subject here demands that we revisit one of the strategic dicta of the General Theory of Strategy that speaks directly to the issue addressed in this Section:

> *Because strategy is uniquely difficult among the levels of war few indeed are the people able to shine in the role. Their number can be increased by education, though not by training, and not at all reliably by the experience of command and planning at warfare's operational and tactical levels.*

The education referred to in this Dictum consists of two components. The first is intensive study of the General System of War and Conflict with emphasis on policy-making, civil-military relations, grand strategy, military strategy (both the General Theory and the various geographic strategies) and operational art. This involves these subjects both from a theoretical standpoint and contextualized with regard to the Canadian polity.

The second component is best described as a broad, general liberal education with an emphasis on international relations, strategic studies, history and military history.[58] Subjects that may be regarded as "high" culture are also of great value, such as Charles Hill's *Grand Strategies: Literature, Statecraft and World Order*, Philip Bobbitt's *The Shield of Achilles,* Richard Tarnas's *The*

Passion of the Western Mind and Jacques Barzun's *From Dawn to Decadence: Western Culture from the Renaissance to the Present* (there are many more!).

Regarding the type of education discussed here, it is wise to bear in mind Henry Kissinger's reflections on the state of higher learning in the West with respect to the social sciences writ large:

> *We have entered a time of total change in human consciousness of how people look at the world. Reading books requires you to form concepts, to train your mind to relationships. You have to come to grips with who you are. A leader needs these qualities. But now we learn from fragments of facts. A book is a large intellectual construction. You can't hold it all in mind easily or at once. You have to struggle mentally to internalize it. Now there is no need to internalize because each fact can instantly be called up again on a computer. There is no context, no motive. Information is not knowledge. Readers are not readers but researchers, they float on the surface. This new thinking erases context. It disaggregates everything. All this makes strategic thinking about world order nearly impossible to achieve.*[59]

Beyond education, of course, is the issue of specific competencies and skill sets required. These are acquired mainly through experience, building upon the educational component. Here a useful start identifying what they are has been made through a recent RAND study entitled "Growing Strategic Leaders for Future Conflict." This study, reported in the US Army War College journal *Parameters*, analyzed the responses of a large group of senior leaders in the US forces to the question of what is required of strategic leaders and strategic thinkers. The responses of those interviewed fell into three categories: cognitive, interpersonal and managerial styles.[60]

With respect to the first style, interviewees focused on cognitive processes aiding in problem-solving. Most prominently, interviewees distinguished between "how-to-think" and "what-to-think" approaches. The former embraces flexibility of mind and diverse intellectual disciplines. How-to-think approaches emphasize the importance of understanding the parts of a problem in relationship to each other, as well as the different perspectives and needs that problem-solving partners contribute. Such approaches entail developing problem-solving methodologies that serve to reconcile competing viewpoints while remaining focused on the goal.

In essence, the how-to-think style is systems thinking. The internationally renowned Canadian management science guru Henry Mintzberg illustrates this linkage brilliantly in *The Rise and Fall of Strategic Planning*. In this wide-ranging and tightly argued book, Mintzberg makes the irrefutable argument that strategic thinking equals systems thinking.[61]

The methodologies referred to by those interviewed include Soft Systems Methodology, Boyd's OODA Loop (both referred to above) and the concept of Design. With regard to this latter methodology, and beginning in the 1970s as the Information Age began to take form, complexity theorists began to argue that dealing with complex systems required an approach that began with "designing", after which "planning" could be effectively employed. As Charles Churchman demonstrated in *The Design of Inquiring Systems* the best way to learn about a complex system is to create a design of it.[62] In his treatment of strategy formation and strategic thinking, Henry Mintzberg makes a similar case, arguing that formal planning and the associated forces that encourage it may discourage the very mental state required to achieve new strategies – a state of openness and easy flexibility that encourages people to step back from operating reality and question accepted beliefs.[63]

According to Gharajedaghi, design, along with participation, iteration and second-order learning is at the core of the concept of systems methodologies.[64] This idea of design is defined specifically by the International Technology Education Association as an iterative decision-making process that enables the production of plans by which resources are converted into products or systems that meet human needs and wants or solve problems.

The idea of "design then plan" is gaining acceptance in many militaries today. According to the American military theorist, retired Brigadier-General Huba Wass de Czega:

> *The creative, non-linear and idiosyncratic but vital cognitive work of senior commanders is generally called military art or strategic thinking. Generals who possess the experience and aptitude for this art do it well. Sometimes their genius is finding the right people to help them with it – an informal command team. What they do is not really planning. It is creating an abstract framework of ideas that summarize the essential elements of a situation, describe what is to be achieved and outline the approach so that planning can begin. It is strategic design. There is no linear process for this essential creative contribution.*[65]

Designing focuses on learning about an unfamiliar problem and exploits that understanding to create a broad approach to managing it. Starting with a blank sheet, designers frame the problem and give it structure. Designers usually record their design in some kind of graphic or pictorial representation. Planning, on the other hand, is heavily analytical and requires more independent and functionally specific work.[66]

The second cluster of characteristics referenced by those interviewed in the RAND study focused on interpersonal styles. Among them, sociability and a preference for relationship building were

regarded as absolutely critical to act as a military strategist in the real world. Interviewees frequently associated terms such as "communicator," "facilitator," "consulter" and "collaborative space-maker" with the term "military strategist." Another key ingredient in this category is cultural intelligence (CQ), defined as the ability to recognize the shared beliefs, values, attitudes and behaviours of a group of people and, most importantly, apply this ability toward a specific goal or range of activities.[67]

In the category of managerial style, respondents noted two characteristics in particular: communication skills and an understanding of organizations and organizational culture. Interviewees considered communication a core function of strategy-making involving the generation of a compelling idea; conveying it effectively and continually to stakeholders; ensuring it is appropriately communicated by subordinates to institutional implementers (operational artists and tactical commanders); and reinforcing the idea through action. Regarding organizational skills these included, above all, the understanding of organizational dynamics and cultures at the conceptual and applied levels. Although not part of the sample group studied, General David Petraeus, a former commander of all coalition forces in Iraq and Afghanistan, a very credible strategist, and rumoured soon-to-be Director of the CIA, captured the sense conveyed by all those interviewed when he observed that there are three enormous tasks that strategic leaders have to get right. The first is to get the big ideas right (cognitive). The second is to communicate the big ideas throughout the organization (interpersonal). The third is to ensure proper execution of the big ideas (managerial).[68]

Beyond the factors discussed in the RAND study and due to the complex nature of war and strategy there are, in addition, eight strategic tasks that are appropriate to strategic thinking and strategy-making.[69] They differ significantly from those traditional notions of military thinking in the tactical sub-system.

Traditional Notions	Strategic Notions
Role Defining	Relationship Building
Standardization	Loose Coupling
Simplifying	Complicating
Socializing	Diversifying
Decision-making	Sense-making
Knowing	Learning
Commanding and Controlling	Improvising
Planning Based on Estimates	Emergent Thinking

Relationship Building

In the strategic sub-system, management of relationships is more important than management of roles. Focus on roles will not be a good way to get people to work together when a major wedge between them is difference in values. Rather, the fundamental importance of relationships must be acknowledged.

Loose Coupling

Loose coupling enhances adaptability because it allows more degrees of freedom amongst strategic actors. Rather than relying on the doctrine of standardization to maintain order, drawing attention to the expertise and value systems of all the professional communities involved, coupled with allowing the self-organizing properties of any complex system to emerge, is a better way to gain coordination and unity of effort.

Complicating

The admonition to “keep it simple, stupid” is often heard in advice given to developing leaders. However, the recursive dynamics of strategy and of its environment calls for exactly the opposite approach. Professional strategists must remain agile with many

options in play at the same time – a quasi-stochastic orientation. Simplification can mask the complexity that is in the environment leading one to miss clues for future action.

Diversity

In the tactical sub-system, much emphasis is placed on getting people socialized so that everyone knows the same organizational story and knows how things are done around here – generally the doctrinal solution. In the strategic sub-system, however, the complexity of problems explodes and strategists need all the different points of view they can muster. Strategists, therefore, strive to increase the diverse viewpoints of a wide variety of non-traditional members of the problem-solving team.

Sense-making

When the trajectory of a system is unpredictable, even unknown, sense-making becomes more important than decision-making. Sense-making is the way strategists create meaning. Sense-making is a social activity that requires interaction and the development of a collective mind. A collective mind is not group-think but a shared sense of meaning in the situation.

Learning

The task of the strategist is not to know what is going on in some unequivocal sense and then tell others what to do. The fundamental unknowability of the strategic sub-system makes this a futile objective. Rather the task is to create a learning organization that values knowledge sharing, individual and team competence, and ethical reasoning.

Improvising

Improvisation is a necessary condition when the environment is complex, uncertain and unpredictable. The strategist must have the capacity to respond to unanticipated circumstances. Improvising is not out-of-control in any sense. Rather, it is a balance of structure and flexibility. It is not no-coupling, it is loose coupling.

Emergent Thinking

In the tactical sub-system analytical thinking is an adequate response to solving complicated, short-term problems. However, in the strategic sub-system formal linear planning, with its over-reliance on forecasting and estimates, and the search for clear cause and effect relationships, is less than useful. Systems thinking, looking at issues holistically and focusing on relationships and feedback loops, is essential to solving so-called "wicked" problems.

To develop competent military strategists, therefore, the professional development system must focus on the three categories of cognitive, interpersonal (social) and managerial (organizational) competencies. These must be consciously addressed in all four pillars of the Canadian Forces' Professional Development Model – education, experience, training and self-development. Of almost overriding importance, however, is to develop an understanding of, and capability to employ, systems thinking and systems methodologies such as Soft Systems Methodology and Strategic Design.

Conclusion

The great American baseball player and sometimes "pop" philosopher Yogi Berra once said, "in theory, theory and practice are the same; in practice, they ain't." When it comes to military

strategy this aphorism does not apply. To develop good strategists the professional development system must insist upon a mastery of theory and a program of practice in the real world such that theory and practice become synonymous. Not surprisingly, we can leave the last word to General Carl von Clausewitz:

> *Theory cannot equip the mind with formulas for solving problems, nor can it mark the narrow path in which the sole solution is supposed to lie by planting a hedge of principles on either side. But it can give the mind insight into the mass of phenomena and of their relationships, then leave it free to rise into the realm of action.*[70]

Lieutenant-Colonel (Retired) Bill Bentley, MSM, CD, PhD has served in the Canadian Forces and the Department of National Defence for 45 years, 35 of which were in the infantry. He is currently an Associate Professor at the Royal Military College of Canada on secondment to the Canadian Forces Leadership Institute. During his military service he had extensive experience in both NATO and the UN, including a three-year secondment to the Department of Foreign Affairs. He is the author of Professional Ideology and the Profession of Arms in Canada and is editing an upcoming book on civil-military relations in Canada. Dr. Bentley received the Meritorious Service Medal in 2006 for his contribution to professional development in the Canadian Forces.

ENDNOTES

1 The great American strategic theorist Bernard Brodie agreed fully with this sentiment. See Bernard Brodie, "On Clausewitz: A Passion for War," *World Politics*, Vol. 25, No. 2 (January 1973), 291.

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3 Colin S. Gray, *The Strategy Bridge: Theory for Practice* (Oxford: Oxford University Press, 2010), 19.

4 Beatrice Heuser, *The Evolution of Strategy: Thinking War from Antiquity to the Present* (Cambridge: Cambridge University Press, 2010); Colin S. Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999); John Baylis, James Wirtx and Colin S. Gray, *Strategy in the Contemporary World* (Oxford: Oxford University Press, 2009).

5 Colin S. Gray, *Fighting Talk: Forty Maxims on War, Peace and Strategy* (Westport, Connecticut: Praeger, 2007), 58.

6 Gray, *The Strategy Bridge*, 29.

7 Henry E. Eccles, *Military Concepts and Philosophy* (New Brunswick, NJ: Rutgers University Press, 1965), 32.

8 Robert Citino, *The German Way of War: From the Thirty Years War to the Third Reich* (Kansas: University of Kansas, 2005), xiv.

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10 A. A. Svechin, *Strategy* (Minneapolis: East View, 1972), 38.

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12 General William Dupuy and General Donn Starry, "The Principles of War," *Military Review*, Vol. XLI, No. 9 (September 1981), 22.

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15 Shimon Naveh, *The Pursuit of Excellence: The Evolution of Operational Theory* (NY: Frank Cass, 1997); and John Olsen and Martin Van Creveld, *The Evolution of Operational Art* (Oxford: Oxford University Press, 2011).

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20 Allan Beyerchen, "Non-Linearity and the Unpredictability of War," *International Security*, Vol. 17, No. 3 (Winter 1992), 61.

21 Philip Lawrence, *Modernity and War: The Creed of Absolute Violence* (Bassingstoke: MacMillan, 1997), 22.

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24 Ibid., 169

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32 Henry Kissinger, *Diplomacy* (NY: Harper Collins, 1994), 120.

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46 Sir Michael Howard, "The Forgotten Dimensions of Strategy," in Sir Michael Howard, *The Causes of War* (Cambridge, Mass: Harvard University Press, 1984), 101-115.

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49 Manabrata Guha, *Reimaging War in the 21st Century: From Clausewitz to Network-Centric Warfare* (NY: Routledge, 2011), 100.

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55 See the discussion of Alllan Beyerchen's thesis in Robert Scales, "Clausewitz and World War IV," *Armed Forces Journal* (July 2006).

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58 See Colonel Bernd Horn, "A Rejection of the Need for Warrior Scholars?" *Canadian Military Journal*, Vol. 11, No. 2 (Spring 2011), 48-53.

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