

Time for Consideration: One Combat Arms Classification

Lieutenant-Colonel Shane Brennan
MA Candidate
War Studies Programme, Royal Military College of Canada

In 1983, Lieutenant-Colonel Brennan graduated from Carleton University with a Bachelor of Arts in Political Science and enrolled in the Canadian Forces. Upon completion of infantry officer training, he entered the Princess Patricia's Canadian Light Infantry. He has served in the 1 PPCLI (1984-86 and 1999-2001), the Canadian Airborne Regiment (1986-89), Headquarters 1 Canadian Mechanized Brigade Group (1989-92), and in 2 PPCLI (1992-97). A graduate of the Canadian Land Forces Command and Staff College in 1992 and Canadian Forces Command and Staff College in 1998, he has served from platoon commander to battalion commander in operations, and in a variety of staff positions. This has included United Nations duty in Cyprus, three tours in the former Yugoslavia, Croatia in 1993 as part of UNPROFOR, Bosnia in 1997 as part of the NATO led Stabilization Force, and Kosovo in 1999 as part of the NATO Kosovo Protection Force. Upon relinquishing battalion command, he was assigned to the Army staff in the Directorate of Land Strategic Concepts. He is currently a graduate student in the Masters of Arts, War Studies programme at the Royal Military College.

Abstract:

Instead of training separate infantry, armoured, artillery and engineer officers should the Canadian Army not just create one combat arms classification? The generalist combat arms officer would be trained from enrolment on combined arms tactics and leadership. He or she would plan and conduct operations that fully harness direct and indirect effects, close assault, mobility and counter mobility forces. This generalist combat arms officer would be an expert at applying combat power, and would gain the skills to integrate broader aspects of warfare related to information and effects based operations

The case for a fundamental union of combat arms leadership is linked to significant trends in combat arms development, emerging doctrine, technological advances, and to Canada's specific army circumstance. Combat arms development points to increasing integration and less to specialization or corps based development. Emerging doctrinal maturity of net centric warfare and effects based operations will broaden the combat officer's focus, and place a greater reliance on senior non-commissioned officers to conduct the minute-to-minute tasks. Technologically more capable systems that blur former distinct combat roles and magnify human capability will decrease corps relevance and further assist in combat arms integration. Finally, the Canadian Army has become increasingly uniform in fighting vehicle platforms and has moved toward more common officer training. Concurrent with this re-equipping, organizational transformation, and doctrinal development, our combat leadership models require re-examination. While the case for a fundamental union has not fully crystallised, there are significant trends that point to a need for careful analysis of how combat arms officers are trained and educated. Machiavelli observed that nothing is more difficult than change but history has shown that nothing is more necessary, for the history of warfare is one of continuous adaptation. Canada is at a point at which it should consider a fundamental change in combat arms leadership that looks more to the future and integration and less to the past and specialization.

There is no more delicate matter to take in hand, more dangerous to conduct, or more doubtful of success, than to take the lead in the introduction of a new order of things.

Machiavelli

Change is never easy; it never has been. Instead of training separate infantry, armoured, artillery and engineer officers, should the Canadian Army not just create one combat arms classification? The generalist combat arms officer would be trained from enrolment on combined arms tactics and leadership. He or she would plan and conduct operations that fully harness direct and indirect effects, close assault, mobility and counter mobility forces. This generalist combat arms officer would be an expert at applying combat power, and would gain the skills to integrate broader aspects of warfare related to information and effects based operations.¹

The case for change will be argued by examining three questions:

- Why did armies develop combat arms corps in the first place?
- Why is there a need for a fundamental union of combat leadership?
- How would one employ these unified combat officers?

In exploring these questions a thumbnail sketch of the origins of army organizations and the roots of combined arms theory will be examined. In addition, some significant trends in force design and employment will be drawn from ongoing transformation efforts. A fundamental union of combat arms officers will be examined in relation to the cumulative effects of combined arms integration, joint operations, potential new divisions of responsibilities between officers and senior non-commissioned officers (NCOs), emerging doctrinal concepts, and the Canadian Army's transformation efforts.² Finally, some initial thoughts on combat officer employment will be offered.

Why did armies develop combat arms corps in the first place?

To appreciate why armies have developed combat arms corps, it is necessary to briefly examine combined arms history and theory. One could start at any period and note the development of the various combat arms corps. The famous Battle of Hastings in 1066 provides an example.³ One major difference between Harold's English army and William's Norman force was the former fought on foot while the latter possessed a mix of foot soldiers and cavalry (knights on horses). The shock effect provided by cavalry was one of the decisive elements in the Norman victory. The cavalry possessed superior mobility, hitting power and protection over Harold's foot soldier. Although it was not the first use of cavalry by any stretch, the conquest illustrates a step in combat arms evolution.

Warfare is in a process of continual change. The range, precision and lethality of weapons, the manner and speed of manoeuvre, the level of protection, the capability of communication or information technologies have all evolved and continue to evolve. There are a wide number of influences that affect army evolution. Technology tends to be the most obvious, but new political, social and economic orders, as well as innovative organizational and doctrinal development also drive change. For instance, Roman legions long dominated the ancient world

because of their effective training and organizational groupings as opposed to any weapon superiority.⁴ Similarly, it could be argued that success of the German Blitzkrieg in the initial stages of World War II was not the result of superior weapons technology, but better training, doctrine and employment of weapons.⁵

The French Revolution created the political and social change that enabled mass citizen armies. Coupled with Napoleon's superior tactics and a new organizational structure, the levée en mass provided yet another critical development in the conduct of warfare.⁶ The result was large armies organized into independent tactical groupings of infantry, cavalry and artillery. The influence of Napoleon's armies and their dramatic success was far reaching. Although, combined arms tactics had evolved prior to Napoleon's era, it was arguably his success that remains the primary influence and the basis for most of "Western" armies organizational structure and tactics.⁷ For example, each combat arm had a role or combat function to fulfill on the battlefield. Light cavalry's function was initially to find and fix an opponent. Heavy cavalry would then be used to charge into enemy infantry formations to break them up. The infantry tactic for resisting an assault was to form squares for all round protection. Accordingly, Napoleon would use either artillery fire or infantry small arms fire to break these defensive formations. Thus, the combat arms became interdependent on each other because, when they were effectively integrated and employed, they were decisive in combat.⁸

Integration was the key concept. By keeping the combat arms together in division organizations, they were immediately ready for battle and could compensate for specific arms vulnerabilities. This French system designed by Lazare Nicolas Carnot and used by Napoleon was the forerunner to the contemporary "Western" army division structure.⁹ Self-sufficient by design, it gave divisional commanders the critical ability for independent operations. Today armies continue to group combat arms for precisely the same reasons and at increasingly - lower levels.

Combined arms theory relies on complementary forces. Each combat arm has weaknesses that can be compensated by the strengths of another. Infantry's vulnerability can be offset by the protection provided by armoured (tank) forces, obstacles emplaced by engineers, and the long range effects of indirect fire artillery systems. Conversely, the infantry can go where tanks cannot go. It provides close battle ability and is capable of a multitude of tasks. Balancing a force with a mixture of capabilities to deal with varying combat conditions increases its adaptability and robustness. Quite simply, the sum of the parts becomes greater than their individual whole.¹⁰

Combined arms tactics will endure as long as the combat arms are complementary, effectively coordinated and remain relevant to the conditions of combat. From battles of World War II to those of Iraq in 2003, the value of combined arms teams has not diminished. In combat, if one is required to advance under fire and defeat an enemy, direct and indirect effects, protection, mobility and close combat forces are required, in addition to a multitude of command, information and sustainment capabilities. The requisites for successful tactical land battle remain rooted in the coordinated use of a balanced, well trained and led combined arms force.

However, what constitutes a balanced combined arms force is changing. Armies developed combat arms corps to fulfill functions required on the battlefield. But there is evidence that these different functions are becoming blurred and that integration between combat arms organizations will eventually become permanent. These changes will likely affect future combat arms leadership and structures. It is not that a particular combat function is no longer required; but rather that technology, superior soldier skills (the ability to perform numerous functions), doctrine and new organizational groupings are permitting combat functions to be provided in new ways.

There are many factors enabling this change. Improved levels of training, education and professional development of soldiers and officers better prepare them for the challenge of combat. Increased commonality in weapons and communication systems is growing, as is the integration of many former discrete systems into more combined ones. These factors point to new ways of accomplishing old tasks.

For example, consider the United States Army's transformation efforts.¹¹ It has created the Stryker Brigade Combat Team (SBCT), a medium weight force that is designed to be lethal, survivable and rapidly deployable. Crafted specifically to conduct dominant manoeuvre in future joint operations, it represents a significant change in combat arms structures. The SBCT foreshadows the potential path that will see increasingly integrated combat functions within unit structures.¹² The SBCT has a headquarters company, a signals company, an intelligence company, an engineer company, three infantry battalions, a reconnaissance, surveillance and target acquisition squadron, an anti-tank company, a field artillery battalion and a support battalion. Conspicuously absent, however, is a dedicated tank (armoured) unit. Instead, the direct fire capability has been incorporated directly into the infantry battalions. Each infantry battalion has in essence three combined arms companies consisting of three infantry platoons, a mobile gun platoon, a sniper section, a mortar section, and a forward observation section. In addition, the battalion has a scout and mortar platoon. The SBCT is further harmonized by the use of the Future Combat Systems (FCS) family of common fighting sensors and platforms.¹³

The significance of this construct is two fold. Driven by pressures to synchronize combat forces, the United States Army created infantry units composed with organic direct, indirect and close assault forces. While most "Western" armies simply group such teams in temporary arrangements of infantry, armour, artillery and engineers, the US has taken a practical step forward. Creating self-contained teams at the company level maximizes adaptability for independent tasks and operations. I assess that the creation of permanently integrated company teams will contribute to the general erosion of traditional corps roles. An organic structure that integrates combat functions will increasingly lay bare the notion that any one corps is inherently the master of a specific combat function. Indirect and direct fire, close assault and even mobility tasks simply do not require separate corps leaders or organizations to deliver combat effects. The tasks, although unique, are not so specialized that a separate officer leadership model is required to ensure their successful execution. Specialized tasks require specialized training not specialized leadership.

The second impact is the fundamental notion of jointness. The SBCT was designed to enable rapid integration into a joint task force to fulfill land combat requirements. Thus an

increased interdependence and complementary relationship is fostered among military services. America is not alone in the move toward greater jointness. The United Kingdom's 2003 Defence Review makes a similar point.¹⁴ Increasingly joint and multinational operations are the long-term outlook. Australia has also indicated it will pursue a joint, integrated and more expeditionary force structure.¹⁵ Canada's position is generally in concert with its major allies, however due to current force structures and capabilities Canadian employment is limited to international combined (with armed forces of other countries as part of a multi-national coalition) operations. Given our ally's transformation efforts and Canada's desire for interoperability, it too will be under increasing pressure to move toward a more integrated multinational joint force capability.

This quick sweep of history, theory and transformation offers a glance of the roots and reasons behind the combined arms teams and indicates several significant trends. In summary, permanently integrated company teams conceived for independent land and joint task force operations will impact on Canada's army force design and employment. This will compel change in doctrine, equipment, organizations and ultimately military leadership, culture, training, and education. One possible outcome could be the fundamental union of combat arms leadership.

Why is there a need for a fundamental union of combat leadership?

The case for a fundamental union of combat arms leadership is linked to significant trends in combat arms development, emerging doctrine, technological advances and to Canada's specific army circumstance. Each area will be examined, in turn, to demonstrate relevance to this proposal.

Combat arms development will be increasingly integrated and less specialized in nature. Convergence of combat arms will increase because combat power is best generated by the integration of capabilities into the basic combat structure, the company or sub-unit. Canada and other armies have long known the wisdom of combined arms groupings but have remained wedded to maintaining separate specialized combat arms units. Only for collective training and operations were they combined to become combat teams. The logic of this division will likely crumble over time. Soldiers know that cohesion is founded in discipline, teamwork, demanding training and a sense of comradeship. Sub-unit cohesion is best developed through enduring shared experience – that is in a permanent structure.

What were once the specialities of a specific corps are now simply combat roles to be conducted within permanently organized structures. It would be foolish to ask which is more important: direct fire, indirect fire, close assault or mobility? There is no clear answer because until they are integrated, they are only individual pieces of what is required for combat. Specialization has its place, but not at the expense of integration, which is the heart of combined arms operations. The rationale that requires a combat arms officer structure based on training an officer for one specialized function should be called into question. Is the specialist still effective and relevant? Do specialist officers supply the long-term combat mindset necessary for future combat success?

In considering combat effectiveness, one must be reminded of a “truth”. Young officers, by virtue of their commission and the special powers it grants, command platoons/troops but senior non-commissioned officers (NCOs) who have more experience and expertise, and who provide the glue and practical know-how necessary for its successful employment. Senior NCOs are often referred to as the backbone of the army, and for good reason. These soldiers have the maturity, competence and knowledge in their specific combat role. Because they have long worked at the front lines, they understand the demands and have mastered the skills required. Indeed, their relationship with young officers is likely the most influential mark on developing junior officers. Who conducts the bulk of basic officer instruction? It is the senior NCOs.

The Army should harness the expertise of the senior NCOs by expanding their responsibilities in executing tactical tasks. Are current combat officer’s roles more linked to what we were than what we will become? The reason why a commissioned officer is required to call for fire, control a command post, plan and supervise obstacle construction is a throwback to older cultural class divisions. It no longer fits the reality of Canadian society. Senior NCOs want and should have more responsibility and officers should focus on wider issues related to commanding and coordinating tactical operations rather than the mechanics of tactical tasks.¹⁶ The army should continue to increase the responsibilities of this critical level of leadership and exploit its full potential in executing specific combat arms tasks. This change would contribute to combat efficiency because it would reinforce traditional tactical leadership success based on competent senior NCOs leadership while developing a combat officer tied less to specialized detail and more to the integration of combat power.

Are we confusing technical skills and leadership? Consider the information and computing field. Daily, we trust junior personnel and a few NCOs to keep the system running. A leader does not need to be technically proficient with a system to harness it. The analogy of an orchestra conductor who knows how to integrate the whole rather than how to play each instrument is apt. An officer primarily requires the ability to plan, organize, lead, command and control vice the ability to be a technical expert in any one task or specific combat function. Granted, there will always be a requirement for a certain amount of officer specialization to fulfill some tasks and develop and assess ongoing technological evolution but its magnitude must be carefully assessed.

A second reason for a fundamental union of combat arms officers is cultural. Current combat arms leadership remains an impediment to change because of the parochial view linked to specialized corps. There comes a time for a new mindset. The past should be preserved in museums and history books, not in military leadership structure. Without a fundamental change in the leadership culture that embraces, from its conception, combined arms doctrine and ultimately joint operations, one is struggling within a confined space in a creative closed box. Simply put, it would be better to commence leadership training with an integrated combined arms focus rather than corps based specialized training. This would foster a new culture for Canadian combat leaders - a culture imbued with a broad understanding of the complexity of combat and an appreciation for the integration it requires.

Presently the Canadian Army is a collection of corps based “tribes.” Regimental and corps affiliations have provided the cohesion and have been the bedrock of developing individual

and collective skills. They have provided a sense of belonging for soldier and leader alike and have been very successful in conflict. But are they still useful?

Officer culture nurtured within corps/regiments forms the basis of life-long views. Such values tend to create a phenomena referred to as “path dependency” where the decisions to retain or remove an idea or organization can have a profound effect on long-term outcomes.¹⁷ In simple terms, how one is led and organized creates a predisposition towards outcomes. Current Canadian Army officers tend to perpetuate their own organizations or corps. This is understandable, but it also points to the need for deeper integration of combat arms culture vice corps culture. One way to develop this culture within the leadership is to foster and train officers in new ways. A leadership paradigm that develops a deeper understanding of the combat arms whole, as opposed to fostering distinct players, should be an army aim. Indeed, the current officer training system after the platoon command level generally fosters developing combined arms skill through courses and training. Why delay this process?

Another dynamic that points to a fundamental union in combat arms leadership is emerging information and effects doctrine. Over time it is likely that Network-Centric Warfare (NCW) and effects based operations (EBO) will drive significant doctrinal change.¹⁸

NCW was founded on the centrality of information and its potential as a source of power.¹⁹ Specifically it is about developing combat power from effective linking or networking of geographically dispersed combat forces that are knowledgeable due to an ability to share information and convert it into useful battlespace knowledge. It is not about technology, but about the potential of dramatically improving awareness. Sensors, individuals, platforms, units and all sources of information could contribute to understanding the battlespace and, more importantly, to identifying, targeting and delivering effects against adversaries. NCW is seen as the means to an end that is EBO.

EBO are defined as coordinated sets of actions directed at shaping the behaviour of friends, foes and neutrals in peace, crisis, and war.²⁰ The EBO concept envisions a more coordinated approach to the actions that create effects not just to adversaries but to all. It is more akin to action targeting human behaviour through a variety of means not just by physical assault on an adversary. The outcome required is an orchestrated set of effects that achieves what we desire.

NCW and EBO will fundamentally change how armies assess, plan and conduct operations. Simply put, dramatically improved information/communications networking, sensor and precision weapon technology promise radically new levels of what militaries have always sought in warfare: better information and communication, leading to faster decision cycles and the ability to use more precise and lethal weapons. Combat planners using effects based doctrine will have a new approach to missions.

No longer are the missions we are called upon to participate in purely or even predominantly military. The effects sought in many missions require a balance of military and non-military means to achieve. But despite this reality, the former tight coupling between means and effects continues to permeate mindsets,

processes and measures. EBO serve to remind us that means and effects need to be explicitly linked, that traditional means may not be appropriate, and that we need to once again broaden our view of military operations...to go beyond kinetic means to consider means in the information and cognitive domains across the full mission spectrum in peacetime and crisis response as well as in combat.²¹

Instead of narrowly specializing on combat functions in what were once infantry, armoured, artillery and engineers tasks, officers will soon focus on orchestrating the effects of direct fire, indirect fire, close assault forces and mobility/counter mobility forces in not only the physical domain but also in information and cognitive domains. A broader focus for the combat officer and a greater reliance on senior NCOs to conduct the minute-to-minute tactical tasks are possible outcomes. While these doctrinal concepts are neither mature nor realized in practical terms, their influence will progressively grow.

Technology is advancing at an unprecedented rate and will be a significant influence on combat arms convergence. Although technology does not change the nature of war, history has shown it does change its conduct. A recent army report asserted that, "the last decade of the 20th century witnessed more technological progress than during all of the preceding 90 years."²² The military results are obvious. From soldier systems, precision weapons, intelligence, surveillance, target acquisition and reconnaissance systems (ISTAR) to command and controls systems, considerable progress is underway. While the article will not dwell on specific technologies, it is sufficient to note the undeniable trend that sees more capable systems that blur former distinct combat roles. Corps relevance will likely decrease as technology and human capability increasingly permit combat arms integration.

Army leadership will be challenged to make the best use of technology. If the army attempts to pigeonhole technology into existing organizations and with the same leadership model, it is liable to miss new opportunities. Instead, what is required is a fundamental assessment that aims for a holistic approach. Specialization in roles will have less to do with corps based realities than what is required in companies and units for combat. The essence of combat power is more about the integration achieved through coordination and less about specialization achieved through detailed task execution.

Today the Canadian Army should reflect not on the individual roles corps played in the past but on how to best coordinate and integrate the capabilities of our present army. Given current structures, Canada graduates approximately 150 regular force combat arms officers a year.²³ While there are many more important factors to be considered, in the end the small numbers put the scale of transition in perspective.

Currently, the Army is undergoing transformation in order to become a strategically relevant, tactically decisive, medium weight force.²⁴ The majority of our combat arms are now Light Armoured Vehicle (LAV) based or in the process of LAV transition.²⁵ With the exception of three light infantry battalions and some engineer and artillery systems, the regular force will become increasingly uniform in fighting vehicle platforms. Anti-armour and air defence systems are also planned for LAV variants. In short, with some exceptions the Canadian Army has never been closer to a common fighting platform and it is committed toward more common systems.

Coupled with the move toward common systems is an ongoing change in the composition of infantry and armour units. Recently, infantry mortar and pioneer platoons were eliminated. As well, the infantry anti-armour platoons are being moved to the armoured regiments. The armour corps is in transition away from traditional tank direct fire, and focussing on surveillance, reconnaissance and direct fire roles from mobile gun systems. Artillery and combat engineers have remained relatively unchanged but they too will reassess combat requirements.

Today the Army's small size, increasingly uniform systems, and ongoing transformation efforts all pose certain synergies. While in the process of examining the rationale behind unit organization and potential future combat development Canada should consider its leadership constructs. Do they shape the army for future success? Will corps trained officers be able to look beyond their corps bias to see ways of improving doctrine, organizations, equipment, training and education?

A recent development in the Directorate of Army Doctrine may improve the outlook. Canada has adopted five operational functions (Command, Sense, Shield, Act and Sustain) vice six combat functions (command, information operations, manoeuvre, firepower, protection and sustainment) to permit a broader look at doctrinal development.²⁶ These were conceived in an effort to break down barriers of specialization perpetuated by corps, allow better integration and provide a new order from which to consider combat development. It remains to be seen if it can sway Army leadership away from corps paths and move them toward more comprehensive ones.

In sum, the case for a fundamental union has not yet crystallised, but, there are significant trends that point increasingly to a need for careful analysis of how combat arms officers are trained and educated. The growing pull toward integration, potentially amplified senior NCOs responsibilities, emerging NCW and EBO doctrine, technological advances and Canada's transformation efforts all imply significant changes that will increasingly call into question the wisdom of training specialist corps officers. Without a fundamental change in our leadership construct, we are likely to continue on the path of maintaining a corps culture that perpetuates fragmentation and specialization to the detriment of the integrated whole. Now is the time to turn to question of the potential employment of a unified combat officer.

How would one employ these unified combat officers?

To frame the discussion of officer employment one needs to consider today's realities. The Canadian Army has it backwards. It initially trains officers as specialists, when it really needs combat generalists. In the long run, it is not so much a competent platoon/troop commander the army desires as a competent sub-unit commander, solid second-in command or skilled key staff officers.

Frankly, an officer that graduates from any of the corps schools is one who has been largely exposed to theory, tested in limited tasks and who has shown desire, intellect, potential and some technical capability. Most combat arms officers could succeed in any of the combat arms classifications given intellect, a motivated attitude, a willingness to learn, physical

robustness and the desire to lead combat soldiers. The officer will learn more by training and through experience over time.

The point is that the specialist training that an officer has received in corps phase training, although valuable, is not as critical as many may assert. Few officers would have difficulty in mastering a technical combat skill after they had been properly instructed, permitted to practice and given the opportunity to improve. And training under demanding conditions hones their skills and build cohesion. However, what is hard to develop is the ability to look beyond specialized roles and to grasp the larger whole. By focusing our junior officers on a discrete set of combat skills we encourage a path that narrows outlook not widen it. This may have sufficed in the industrial-age but will be found wanting in the information age.

Interestingly enough, we have already moved significantly toward the goal of achieving a new model combat officer. In 2002, the army embarked on common officer training to gain efficiencies by providing all officers with an initial exposure to army training. Its stated aim is to provide the junior officer with the basic skills required to survive and fight on the battlefield.²⁷ Upon completion, combat arms officers presently continue on separate paths to complete two phases of increasingly demanding specialized combat training at their respective corps school before unit assignment. In the future, a common final combat arms officer phase is needed to open new doors.

An employment model that provides a glimpse of what could be realized is needed to illustrate the case. Combat officers complete two final phases that teach small unit leadership, tactics, combined arms theory and familiarization training on the combat functions of direct and indirect fire, close assault, mobility and counter mobility tasks. Officers are then assigned to units on the basis of platoon/troop commander need. In their initial tour, they learn to command their platoon/troop and develop combat arms experience. After platoon/troop experience, a number are selected to receive additional specialized training at the combat training centre schools and will go on to command specialized platoons or perform specialized roles. Others will serve in staff appointments within the unit. Eventually, junior officers will be assigned to staff positions outside of the units. Of course, officers will have developed unique skills based on where and what they have done and this experience will influence future employment options. The net effect is a combat officer corps with a broader mindset focused more on the integration of combat power.

This simplistic example leaves asides much detail; from training systems changes, career employment and progression paths to potential unit restructure issues. It would fundamentally affect officer, senior non-commissioned officer and soldier training. Organization, cultural and equipment change would be profound, as the effects of combat integration are more closely examined and developed. The complexity of such change and implementation is cause for caution but not reason for inaction. The challenge of change should be fuelled by the long-term benefit and perhaps explored in an incremental manner with units or brigade. Perhaps the structures need to be changed before the leadership? The successful transition, in whatever form, must be based on sound logic and with the aim of developing our greatest strength, our people.

In exploring the question of how to employ combat officers we are left with more questions than answers. In the end it boils down to a simple reality. The company and unit commanders of 2020 are about to enter our training system. Is corps centric training imbuing the mindset that will continue to serve Canada's army well? Given the pace of technological and doctrinal change, the answer is not likely. The upshot is that Canada should consider leadership transformation concurrent with the re-structuring of units, the acquisition of new equipment and doctrinal development.

Conclusion

Change in any large institution is difficult and complex. The effect of a new combat leadership construct would be uncertain. What is certain is that the army must continue to evolve in incremental steps that permits growth, removes the obsolete and maintains immediate combat capability. Paradoxically, the present strength of the combat arms allows effective employment today but it also inhibits new growth. It is not the corps's fault, as they cannot help but be the product of their society, culture, experience, training and education. As history informs us, it is not uncommon to fail to grasp what could be, because of who one is.

How we train our future leaders needs careful consideration. The question remains not when but what will cause the combat arms leadership to change? The cumulative effect of combat arms integration, potential new divisions between officer and senior NCOs responsibilities, increasingly joint operations, the impact of NCW and EBO and Canada's army's present transformation all point to significantly changed circumstances that will increasingly call into question the wisdom of training combat specialist officers vice combat officers. Although some issues are long-term developments, there is a need to begin discussion in order to shape the army's collective wisdom and fully consider their leadership implications. The Army should welcome new thinking on this issue, because yesterday's solutions will not always answer tomorrow's challenges.

Canadian combat arms leadership maintains a narrow-minded view of combat concerned more with corps or branch issues that not only hinders long-term combat development but also endangers their ability to grow and incorporate new ideas. Specifically this tendency runs counter to a trend that sees the eventual integration of combat arms into one cohesive team, a process that began centuries ago and is still ongoing. If Canada's army cannot manage combined arms leadership integration for land combat operations, it will have difficulty realizing the higher standard of effective joint operations.

Machiavelli observed that nothing is more difficult than change but history has shown that nothing is more necessary, for the history of warfare is one of continuous adaptation. Combat arms evolution is inevitable. Canada is at a point at which it should consider a fundamental change in combat arms leadership that looks more to the future and integration and less to the past and specialization. It is time to consider the notion.

Endnotes

¹ Combat power is the total means of destructive and /or disruptive force that a military unit or formation can apply against an opponent at a given time. Conduct of Land Operations – Operational Level Doctrine for the Canadian Army, Canadian Army Publication B-GL-300-001/FP-000, 1998, p. 24.

² The term joint “connotes activities, operations, organizations, etc in which elements of more than one service of the same nation participate. Source: Canadian Forces/ NATO definition in Allied Administrative Publication-6 (AAP-6). <http://www.nato.int/docu/stanag/aap006/en/2004-j-e.pdf> (21 September 2004). Joint operations or jointness in general refers to the integration of land, sea and air forces in the planning and conduct of operations. Joint operations are a product of joint doctrine, training, and organizational structure, and are facilitated by interoperable command and control systems and complementary weapons suites. Canada, Canada’s Army, B-GL-300-000/FP-000, p. 116-120.

³ Tom Wintringham describes the armies of Harold and William and explores the wide theme of continuous change in the conduct of warfare. Tom Wintringham, *The Story of Weapons and Tactics from Troy to Stalingrad*, Boston, The Riverside Press Cambridge, 1943, p. 1-3. Successful warfighting relies on a process of continual concurrent development that simultaneously constructs and deconstructs forces and capabilities as they became less relevant.

⁴ Christopher Bellamy credits Roman training, employment of the short stabbing sword (technology) and doctrine as keys to success. Christopher Bellamy, *The Evolution of Modern Land Warfare*, Routledge, London, 1990, p. 30-31.

⁵ Robert Leonhart, *The Art of Maneuver*, Novato, Presidio Press, 1991, p. 48-52.

⁶ Bellamy noted that Napoleon did not introduce new doctrine or weapons but rather coordinated the use of artillery, infantry, and cavalry through the creation of the division structure and employed them effectively in accordance with a “Grand Tactics” strategy or what would be termed operational art today. Bellamy, *The Evolution of Modern Land Warfare*, p. 55-58.

⁷ It is likely the Swede Gustavus in the 1630s was the first to create what could be termed a European combined arms army composed of infantry with muskets and pikes, cavalry and artillery employed in a coordinated fashion. They were successful employed in battle but the Swedes never achieved the acclaim accorded to Napoleon’s use of combined arms teams due to their limited strategic employment. Gunther Rothenbrg, Maurice of Nassau, Gustavus Adolphus, Raimonndo Montecuccoli, and the “Military Revolution” of the Seventeenth Century, in Peter Paret (editor), *Makers of Modern Strategy from Machiavelli to the Nuclear Age*, Princeton University Press, Princeton, 1986, p. 48.

⁸ Robert Leonhart, *The Art of Maneuver*, Novato, Presidio Press, 1991, p. 44. Leonhart describes the development of combined arms tactics noting that technological developments enabled integration. Infantry was the still the dominant arm, but cavalry was employed for shock effect in attacks, and in reconnaissance and screening roles but was most successfully utilized in the pursuit. The artillery was successfully integrated because of its horse and wheeled mobility, allowing it to move with the infantry and cavalry in battle.

⁹ *Ibid*, p. 42-44. Leonhart outlines the organizational significance of combining the three arms in set divisions.

¹⁰ Leonhart discusses the synergy and complimentary effect of combined arms theory and manoeuvre warfare, p. 91-110.

¹¹ It is important to note that these efforts are part of a larger American service wide military transformation initiative that envisions an increasingly integrated and joint force approach to all planning and operations. American transformation is based on a Joint Response Force concept that envisions the requirement of a joint force to rapidly respond across a wide spectrum of contingencies. This jointness is the most powerful concept of transformation. The synergy that jointness brings is deemed essential and calls for increased integration and interdependence of service capabilities. The aim is to allow the joint force commander to operate within an adversary’s decision cycle and apply force with greater precision, speed, and simultaneity throughout the battlespace. Paraphrased from Transformation Study Report: Transforming Military Operational Capabilities, prepared for the Secretary of Defence dated 27 April 2001.

¹² Surprisingly the basic SBCT structure is similar to the current Canadian Mechanised Brigade Group (CMBG) structure. The most significant combat arms differences are the presence of an armoured regiment in the Canadian model and its exclusion in the American brigade. However, with the recent ministerial announcement to purchase

66 Mobile Gun systems (MGS) systems and the retirement of the Leopard tank, this difference has narrowed considerably. Of note the American's are crewing their MGS with infantry and Canada with armour corps crews.

¹³ Future Combat Systems include: vehicle variants - armoured personnel carrier, command and control, reconnaissance and surveillance, mortar, non-line of sight (NLOS) weapon platform, beyond line of sight (BLOS) weapon platform, resupply, a host of unmanned ground and air systems and soldiers systems (Land Warrior). See United States Army web link www.army.mil/2003TransformationRoadmap for additional detail.

¹⁴ United Kingdom. Ministry of Defence, United Kingdom White Paper dated December 2003.

¹⁵ Australia. Department of Defence, The Australia Approach to Warfare, dated June 2002.

¹⁶ Three main points arose from the proceedings of a symposium on the future of Army NCOs: a division of labour between officers and NCOs is necessary but that its application might be modified, their leadership connection to soldiers and the desire for more responsibility. Douglas L. Bland, editor, *Backbone of the Army: Non-Commissioned Officers in the Future Army*, Kingston, Queens University School of Policy Studies, 2000, p. xiv.

¹⁷ Nathan Rosenberg, *Exploring the Black Box*, Cambridge, Cambridge University Press, 1982, p. 205-207.

¹⁸ The concept of NCW is actively being pursued among NATO countries and within Canadian joint and army doctrine. The Canadian Forces Experimentation Centre (CFEC) has conducted studies into the concept and is pursuing its refinement for joint operations. Canadian Land Force Tactical Doctrine B-GL-300-002/FP-000 is undergoing amendment that describes EBO in relation to combat power. These are strong indications that these concepts will continue to grow and influence future Canadian doctrinal development.

¹⁹ David Alberts, John Garstka and Frederick Stein, *Network Centric Warfare; Developing and Leveraging Information Superiority*, 2nd Edition, United States Department of Defence, Command and Control Research Program publication dated July 2002, p87. NCW was constructed to ensure a new approach and solutions to generating combat power. Specifically it is about developing combat power from effective linking or networking of geographically dispersed combat forces that are knowledgeable due to an ability to share information and convert it into useful battlespace knowledge. It is not about technology but about the potential of dramatically improved battlespace awareness due to shared information and increased awareness. Sensors, units and all sources information could contribute to understanding the battlespace and more importantly to identifying, targeting and delivering effects against opponents.

²⁰ Edward A. Smith, *Effects based Operations: Applying Network-Centric Warfare in Peace, Crisis and War*, United States Department of Defence, Command and Control Research Program publication dated November 2002, p x. EBO describes three domains in relation to effects; physical, information and cognitive. The physical domain includes all physical actions or stimuli. The information domain includes all the means by which one becomes aware of objects, events or a situation. The cognitive domain is psychological or mental process that perceives or makes sense of a situation and then decides on a course of action. Paraphrased from p. 157- 191.

²¹ *Ibid*, p. x-xi.

²² *Future Force: Concepts for Future Army Capabilities*, Director of Land Strategic Concepts, Canadian Army, published 2003, p. 27.

²³ Estimated phase four officer graduates for fiscal year 2004/05 are 62 infantry, 26 armoured, 22 artillery and 25 engineers. Source: Directorate of Army Training, Land Forces Doctrine and Training Systems, Kingston Ontario.

²⁴ Canada, *Advancing with Purpose: The Army Strategy*, Ottawa, Department of National Defence, May 2002, p. 13.

²⁵ A snap shot of Army regular structure reveals six of nine infantry battalions LAV equipped. Two armoured regiments LAV Coyote equipped with the third armoured regiment a designated direct fire unit equipped with a mix of Coyote and Leopard C1. This direct fire unit will receive MGS upon delivery. Anti-armour capability is being considered for regrouping into the direct fire unit and eventually transitioned from a tracked vehicle to a LAV variant. The three artillery regiments are primarily equipped with the L5 gun, a 105mm towed howitzer however there remains a residual M109 tracked capability. Investigation for new indirect systems are ongoing and include a LAV mortar variant and LAV or wheeled mounted missile and gun systems. The Air Defence Anti-Tank System (ADATS) is currently tracked but work to mount its turret on a LAV platform is underway. Combat engineers still utilize M113 variants and an assortment of heavier specialist equipment but are exploring LAV chassis options. However due to the number of specialized tasks engineers will likely remain a mixed fleet of wheeled and tracked vehicles. Note the three light infantry battalions and supporting elements remain dismounted and are supported by a variety of wheeled and aviation platforms.

²⁶ See combat development capability managers terms of reference for a more complete description of operational functions. The terms of reference can be viewed in the critical document link on the Defence Wide-Area Network (DWAN) at lfdts.army.mil.ca/dglcd/cd/main.asp. Capability managers reside in the Directorate of Army Doctrine (DAD), as part of Director General Land Combat Development (DGLCD).

²⁷ Officers are introduced to offensive and patrolling operations and section defensive operations. Fieldcraft, navigation, mine awareness and aircraft/vehicle recognition skills are covered as well as weapons training (rifle, machine gun and grenade) and communications systems. In addition, planning platoon operations and conducting small arms firing ranges are taught.