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## What's a 6 liner?: Armour School Visits the Marines in Camp Pendleton, California by Capt Marc Lesage



Marine Cobra Attack Helicopter. Photo by Capt Lesage.

"White 1 this is White 4, contact wait out." Cracked over the net, "White 4 this is Gunslinger 51 send 6 liner." Replied the Marine Super Cobra marauding overhead. Now there was a long pause as WO Goodwin looked over at his gunner, a United States Marine Corps (USMC) 2nd Lieutenant, and asked: "What's a 6 liner?" The 6 liner, as it turned out, is a shortened form of the 9 liner, which US forces use to call for Close Air Support (CAS). It is similar in nature to the standard NATO CAS brief used by Canadian Forward Air Controllers (FAC). The next sound to crack over the net was "You're dead!" This was the voice of Gunnery Sergeant Johnston, the Enemy Force Commander. Luckily, this anecdote took place in the training area of Camp Pendleton and not on Operations. Despite this, the WO – with help from his Marine gunner – managed to get off a 6 liner to the Cobra who made a strafing gun run on the enemy position, destroying the enemy vehicle.

Members from Depot Squadron of the Armour School visited the USMC School of Infantry from the 29 March to 6 April. Specifically, our visit was to observe the LAV Training Company to see how Marine Corps training differed from what we are doing in Depot Squadron. We all learned many lessons, as this was an eye opening experience. WO Goodwin and myself were tasked with Leadership training methodology, use of after action reviews in individual training, course and instructor, resource scheduling, reconnaissance tactics techniques and procedures, NBC training and procedures, surveillance equipment training, and the use of aircraft and UAVs in reconnaissance. Quite a daunting task to cover in a brief period. Luckily, our hosts were more than happy to share their normal procedures and their lessons learned from Operation Iraqi Freedom (OIF).

Visit the United State Marine Corps online.

Now it is not my intent here to talk about how the Marines or the Armour Corps do the business of Recce Ops. My central focus in this article will be the lack of training for Crew Commanders (CC) in the art of calling for CAS. So before anybody gets too upset in the FAC world, I am not suggesting that we make every CC a FAC. While that would be great, it is not practical due to monetary issues, deployments and various other problems. However, every CC should be able to call for CAS in an emergency situation.

What I recommend is that students on the Armour Recce Crew Commander (DP 3 ARCC) course be taught to call in emergency CAS. This makes sense because our Reconnaissance Squadron normally operate as part of a multi-national task force where air assets are readily available. Also, fully trained FACs will not always be forward with every patrol. Most important of all we do not want our crew commanders learning White 4's lesson under enemy fire.



WO Goodwin crew commands a Marine LAV during a training exercise in Camp Pendleton. Photo by Capt Lesage

So how do we go about implementing this training into our already intensive training schedule for DP3 ARCC course?

- Option 1: There was talk in the FAC community about conducting a condensed FAC course, but this course was
  geared towards FAC who had lost their currency. The course would last one week, and end with live CAS. While
  this may be a good option to consider for qualified FAC in the Corps, it is not practical for training CCs.
  Therefore, I will leave this option aside.
- Option 2: The FAC community has also looked at trying to run a 5-day introduction type course that would train soldiers to conduct emergency CAS. While this would be an excellent option that would give the skills and knowledge necessary to call emergency CAS, the course has been dropped due to lack of funding and the requirement for a recognized qualification. Furthermore, we do not have the time nor the resources to train every CC that comes though the Armour School an extra 5 days.



 Option 3: This option is to provide all CC students with a CAS pre-course theory reading package, possibly supported by e-learning materials and tapes of FAC calling in CAS. The residence portion of the course would require only a few periods to confirm the basic understanding of the material. During the field training at the School and back at the Regiments this training can be reinforced by qualified FAC acting as "imaginary CAS" available for the emergency CAS qualified CC. Given training rationalization, this proves the most workable option for the Corps.

In order to prevent skill fade, the Regiments must be ready to support this training and create a FAC cell. This cell will be responsible to further train and give the confidence required by all CC's to conduct emergency CAS. The cell would be manned by FAC who are obviously current and have to be at least "limited combat ready" (this is a FAC qualification level that denotes limited currency as opposed to operationally readiness, known as "combat ready"). The cell will also be the responsible for validating all operational work ups on emergency CAS.

The Armour School should also create its own FAC cell, not to duplicate the efforts of the Artillery School, but to ensure that the instruction and coordination required for emergency CAS training at the School is on par with what is going on in operations. This cell would work closely with the Artillery School to continue to develop relevant instruction for the School and the FAC cells in the Regiments. Now how do we go about getting the resources required to conduct emergency CAS on courses or at the Units?

Simulation can assist the development of the basic skills; the Artillery School, and every Brigade have the IFT simulator. This simulator is used for FAC training, so it can be easily used in CC training to be able to do emergency CAS. CH-146 Griffins, simulating attack helicopters, could be integrated into our training. Requests can and should be made to our allies down south to support our training, with fixed and rotary wing assets. The ARCC course would continue as it does now in the field with traces with limited air support. Should aircraft be unavailable, the instructors can simulate the CAS aircraft through voice procedure with the student (much the same way we already simulate artillery fire). This would require that all instructors on the CC courses be proficient at emergency CAS. The School FAC cell will need to conduct regular refresher training. These course of action all have a price attached to them, but what is the cost of sending our CC on operations with out the ability or the basic knowledge to be able to effectively employ fixed or rotary winged assets? Lessons learned in combat demand that we take action and amend training accordingly.

As further substantiation of this requirement I spoke at lengths with the LAV Coy First Sgt, a veteran of OIF about CAS. He stated, "There is nothing better than knowing that you have CAS overhead and knowing that you can employ it." Also Major General Natyuczyk stated "The morale of III Corps soldiers received a significant boost knowing that they had AC-130 gunship with massive precision support overhead on call." Now we know it is out there we just have to train our CCs to be able to use it if required. I was fascinated by the fact that every CC in the Marines can and does have the basic skills to call for CAS.

In conclusion I hope this brief article has stimulated some thought. I have put forward a solution to a shortcoming that I have seen in the Armour Corps. CCs must be trained in the basic skills and have the knowledge to employ CAS in an emergency situation. So we will never as leaders have to hear, "What is a 6 liner?" and "You're dead" just because the CC did not know how to call CAS. I strongly believe that this can be done easily with a minimal cost to the Corps. The cost of doing nothing is unacceptable.

#### **ADSUM**

Editor's Note: Capt Lesage makes some good points here. If, according to the Force Employment Concept, we must be prepared to operate as part of a coalition, then recce soldiers must be ready to use coalition assets such as air support. Given the isolation and autonomy of recce patrol commanders, interoperability and survival will be dependent on "emergency CAS" just as it is now dependent on artillery.

While Capt Lesage makes a valid point and offers a sound solution, any additions to training must be balanced against the drive for training rationalization. Adding this requirement will only prove workable by either cutting existing training or jamming this information into the course without increasing the course length (an altogether common reality). An interesting case study is the amount of time focused on calling for artillery, which has now been reduced to a single day (during which time, each crew commander will likely get only one chance to call for and adjust artillery fire on the



simulator). Perhaps the time has come, in light of these lessons learned from the Americans, to reassess the skills out
crew commanders need and then focus training towards that end. While this bears a certain logic, it must be balanced
against training resources and the increased training tempo due to Army expansion – serious limitation. However, training
rationalization merely for its own sake will only hurt the people we rely on to get the job done.

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#### The Armour School Heads South: Visit to Fort Knox. By MWO Andy Royer

It was on a sunny Easter Sunday morning that a team from the Armour School consisting of members from Headquarters Squadron and myself from Training Squadron departed for Fort Knox, Kentucky. The aim of the trip was to observe how our American neighbours conducted training for entry level for NCMs and officers.

- Visit the US Army Armour Center, Fort Knox, Kentucky
- Visit the Patton Museum online, Fort Knox, Kentucky

Our first briefing was conducted at the Adjudant general battalion where the new soldiers are processed upon arriving from all over the country. Here they finish in clearances, receive their initial issue of the battle dress uniform (BDU), complete medicals and dentals. It is also the first place they will see the smiling faces of their drill Sergeants. This type of organization is not only found at Fort Knox. There are 4 –5 locations for the army and they are configured slightly different. The battalion in Fort Knox has 3 Coys in this org, one which handles the in process, another which handles the medically recoursed pers and the last Coy handles those who no longer wished to be members of or were found to be unfit for the US Army.

On completion of their 3 to 4 days of indoctrination, the young soldiers carry on to 1 Armour Training Brigade (ATB) to complete armour-specific courses either as tank crewman, scouts or maintenance personnel. These courses – from basic to trade qualification – last 15 weeks for tank, 16 weeks for scouts and 23 weeks for the maintainers.

The ATB also conducts a 9 week basic course for combat service support (CSS) and other support trades. Upon completion of this course, they will report for 9 to 13 weeks of trade qualification or a 4 week warrior transition course for those who are re-enrolees or have transferred from another trade. The aim, in the end, is to provide them with basic combat skills. Given the operational environment of Iraq, the American's primary theatre of operation, these combat skills can mean the difference between life and death.

A large extent of American Army training is conducted using simulators, and we were exposed to numerous systems during our visit. The Under Conduct of Fire Trainer (UCOFT) is a computer simulator used to train M1 gunners and crew commanders. Much like the Canadian Coyote Gunnery Trainers, the UCOFT is used to practice skills before live firing. One crucial difference between our gunnery training and that of the Americans is their strict enforcement of timings on engagements. On the UCOFT, crews are driven to reduce engagement timings while maintaining accuracy. This results in highly proficient and deadly tank crews. For drivers, the M1 driver trainer provides trainees with experience in a simulated environment with realistic controls. Like the UCOFT, simulator training at the crew level replaces real time on the vehicles as a means of saving costs. Crews are able to learn their job on a simulator first, thus reducing the amount of time they will spend training on the actual vehicle. In the case of gunnery, such savings can be enormous.

On the tactical level of simulation, the U.S. Army employs a whole host of simulators. The original and perhaps best known is the Simulation Network (SIMNET) which permits company sized elements to interact with a virtual enemy. In recent years, this network has been augmented with the Close Combat Tactical Trainer (CCTT), which places crews in a mock-up of a Humvee, M1 Tank or M2 Bradley to operation in a virtual environment. This enables forces to the size of combat teams to train in a virtual environment against custom designed threats. In response to lessons learned in Iraq, the U.S. Army has also developed a convoy trainer. With the use of over head display (OHD) goggles, soldiers obtain a 360-degree view of an urban environment (usually downtown Baghdad) and are required to react to threats. Unlike the other simulators, this one is based on support vehicles, so crews are either in a Humvee jeep or a medium lift truck.

In addition to simulation training, the U.S. Army is incorporating several unique features into the training of new personnel.



To build the confidence of their soldiers, there is the night infiltration range that requires soldiers to crawl for 100m over various obstacles. The course begins with the soldier in a trench, the lip of which must be cleared of booby traps before exiting. Then the soldiers must navigate over logs and through wire obstacles before entering a trench at the end of the course. While this seems straightforward, realism is augmented by the constant overhead live-firing of machine guns. Occasional flares require soldiers to "freeze" until the light extinguishes and they can move again. Soldiers are expected to use their non-firing hand to check for booby traps at each obstacle. Finally, explosives simulate artillery fire while loud speakers play unnerving sounds such as people screaming and weapons firing.

The convoy escort range is designed to teach soldiers how to react to threats during convoy movements. Soldiers are loaded into a Humvees or a truck and required to fire their personal weapon at targets as the vehicles move around a course. For this range, soldiers drive the route once without ammunition, then again with blanks, and finally with live ammunition. Usually, in the conduct of our ranges in Canada, blank ammunition is never brought onto a live range. While this is usually the case for U.S. Army ranges, experience has taught them that it is a necessity given they are training relatively new recruits.

Finally, we were given the opportunity to visit a M1 Tank range. There, the U.S. Army employs tactical movement as part of its traces. Tanks are required to take progress bounds forward and engage pop-up targets. This is not dissimilar to our battle runs with the exception that they adopt proper fire positions and send contact SITREPs whereas we simply practice firing while on the move. Perhaps most impressive of our tour of the M1 is its new System Enhancement Package (SEP). The M1 SEP incorporates a state-of-the-art electronic battlefield management system on a computer display. It also provides the crew commander with an independent thermal sight.

One interesting difference with respect to training delivery is the use of civilian employees to teach many technical skills from gunnery, driving, and maintenance. This is not a new idea, as several militaries around the world incorporate civilian instructors. The civilians I saw employed in Fort Knox were all ex-military, which is perhaps the model we should follow at the Armour School, should we start to employ civilian instructors.

Overall, the week spent in Fort Knox was very interesting. Not only did we obtain a different perspective on training entry level soldiers but we learned a great deal about advanced simulation and confidence building exercises. I recommend that anyone involved in the training of soldiers take advantage of opportunities to visit our neighbours to south and learn from their lessons.

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# Tools for the Craftsman: A Cultural Shift in Training Methodology To Equip the Corps' Newest Crew Commanders By Capt Chris Lillington

The Armour School has launched boldly into Army Transformation since the focus of the Corps has evolved from direct fire to reconnaissance and surveillance. In response to this demand, the School has adopted new and innovative approaches to teaching as a means to challenge students and develop leaders who are both mentally agile and capable of operating in a dynamic contemporary operating environment. Suffice to say, the structure of training and courses has changed significantly over the past two years; it seems prudent to examine which tools we equip our leaders with to handle the myriad of issues which challenge them daily in garrison and during operational deployments in theatre. Young leaders must understand the benefits of conducting sound battle procedure as a means to adequately prepare them for any task. Specifically, the combat estimate must be better taught, understood and applied. The combat estimate is an extremely practical tool but is frequently made complicated by a misunderstanding of its application. In order to sufficiently prepare Master Corporals to crew command and patrol command during the conduct of reconnaissance operations, they must fully appreciate the benefits of this aspect of battle procedure during their formal training on the Armour Recce Crew Commanding course (DP 3 ARCC).

One of the issues line units have always had with the School is the amount of time the School focuses on battle procedure (BP) vice getting the mission done. The Regiments would argue that the School existed in isolation to reality and imposed unrealistic demands upon students, namely through the conduct of blatantly obvious BP. Conversely, the School's focus was to provide students with the tools they needed to do the job. Like acting, BP would be taught so it could be forgotten; it would, however, become an innate part of their military reasoning and planning. Thus, when crew commanders at the



units are only given ten minutes for BP, they have the innate ability to make sound conclusions based on the tools the School provided. Unfortunately, the reality is that the pendulum has swung from one extreme to the other, from spending too much time on battle procedure, to not spending enough time in its conduct. Despite frequent misunderstandings in the application of the combat estimate, a sound comprehension of this simple tool at the crew commander and patrol commander level is necessary as a tactical commander and would benefit the Corps enormously. Ideally, junior leaders should possess a strong and uncomplicated understanding of the combat estimate and how to apply it to any problem.

Having already conducted the other steps of battle procedure during their Primary Leadership Qualification (PLQ), Master Corporals receive little exposure to the use of a combat estimate before the DP 3 Troop Warrant course. What exposure they have is complicated by the fact it is often taught at a level above their ability, rendering it a daunting tool. Undoubtedly, every soldier conducts an estimate before getting dressed in the morning or shopping for groceries in the supermarket. It is often not until their Troop Warrant course that they begin to fully understand the estimate and its application in a tactical environment. If time is not adequately allotted during the instruction of the DP 3 ARCC, then students will not have the opportunity to properly grasp the principles of the combat estimate. With the volume of instruction on DP 3 ARCC, students are frequently overwhelmed. As a result, students just pay lip service to the combat estimate during their course and when they return to their respective regiments, they do not take the time to understand the value of this tool. Achieving this understanding so late in their careers, NCOs are not given the means to develop their decision-making abilities as they progress and subsequently lack proficiency in many of the skills they are expected to perform.

In laymen's terms, the spirit of any estimate is the quick and logical analysis of facts and deductions as a means to render decisions that reflect all of the necessary factors and information. Therefore, the combat estimate allows commanders to think about everything that will impact on the present mission. Most leaders would agree that an estimate frequently confirms a "gut feel" and promotes a mental approach to problem solving, which facilitates making decisions in stressful situations and adverse conditions. Although we tend to think of the estimate process starting at the Troop Leader level, teaching our junior leadership the combat estimate will enable them to develop their analytical abilities at an early stage in their careers. With time and experience, these soldiers will improve their decision-making skills and become confident and proficient as leaders. The combat estimate, in its simplest form, covers the basic factors that apply to a tactical situation. However common it may be, if a student does not fully comprehend the combat estimate as it applies to tactical situations, they will be disadvantaged in the completion of their mission. A poor understanding will inevitably create weak decisions, which could adversely affect the mission at hand and lead to fatal consequences such as death.

By learning this skill as MCpls, their focus during the Troop Warrant Officer's course can be directed to higher level concerns such as reconnaissance operations at the Troop and Squadron level. Realizing that individual training rationalization has heavily impacted such courses as the DP3 Tp WO bringing it to approximately 30 days, there is little time available to re-introduce important tools and concepts. In other words, future students of the Troop Warrant course will have to arrive fluent in the use of the estimate as there will be little time available to teach them. For those who doubt the necessity to generate understanding of the estimate at the junior NCO level, we need only examine the realities of present operations in theatres such as Afghanistan and Iraq, where the nature of operations has placed increased responsibilities down to the Patrol Commander level. Task Forces use the information processed by Patrol Commanders to form plans. If the School and the Regiments do not equip soldiers properly, there are very serious consequences which will negatively affect mission success. In light of this, the combat estimate has become a crucial tool at the Master Corporal and Sergeant level. Fortunately, these concerns can be addressed in our existing training framework. More time must be dedicated to the development of exercises which will demonstrate the procedure for combat estimates so that students feel comfortable. The combat estimate needs to be presented to students in a manner, which they can understand such as non-tactical scenarios. For example, instructors can outline the steps of the combat estimate and demonstrate its application by examining simple problems such as "where to purchase your winter tires". examination of the problem using the steps will force the students to easily comprehend the procedure. Once students grasp the steps and usefulness of the tool, they will be in a better position to apply the same technique to tactical situations in the field and in operations.

Within the many positive initiatives that have enhanced the training methodology at the Armour School, a more pointed focus should be developed with respect to teaching the combat estimate to the students of the DP 3 ARCC. As the Corps' priority, the DP 3 ARCC can create a solid foundation in the combat estimate. As the School continues to evolve and adapt its methods of instruction in order to develop competent leaders, it must also re-examine which tools will best



serve the soldier when they are faced with a situation they must solve in isolation. I would argue that few leaders make *perfect* decisions but sound decisions based on logical deductions are just as viable in achieving the Commander's intent. Sound decisions – and therefore the viable options that make missions succeed – come from sound estimates.

With the nature of patrol level tasks and the increased probability of irregular forces in a theatre of operations, young leaders need to possess skills which will guide their thought processes and render feasible solutions in the face of unfamiliar adversity and danger. A fine balance must be established between tactical skills and the combat estimate wherein the students of the DP 3 ARCC grasp the spirit of the estimate so they too can apply it in the conduct of their tasks. It is essential that junior leaders leave the School with confidence in their abilities and, more importantly, in their capacity to perform effectively in their primary role.

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#### Humping It: Dismounted Requirements of Mounted Reconnaissance By Capt Dale Childs

During my recent reconnaissance conversion course, I was surprised by the increased importance of dismounted operations in the performance of mounted reconnaissance. I, like others, found myself dusting-off skills that have gone unused since phase training. Fortunately, the other members of my patrol were reconnaissance veterans, one having served with both para reconnaissance (on the Lynx) and Assault Troop. These two, experienced sergeants quickly accepted the task of informally instructing not only myself, but the drivers, surveillance operators, and even the directing staff in the finer points of dismounted operations.



Photo by MCpl Yves Proteau, Combat Camera

Despite the fact that mounted reconnaissance is our expertise, reconnaissance crewmen often find themselves acting as dismounts to handle a variety of tasks. Whether conducting point recce, vital point protection, observation post reconnaissance, clearing a bridge, manning a traffic control point, or securing laterals (to name but a few), we are expecting our patrols to do an increasing amount of work as dismounts. It seems logical to ask how well we are training our crewman to perform in these roles. The answer is not reassuring.

Crewman training is very sparse when it comes to dismounted skills. For our purposes here, we will focus strictly on dismounted patrolling skills, as they are the most applicable to reconnaissance. The only courses that will instruct Crewman in this regard are the DP 1 Soldier Qualification (SQ) and the DP2 PLQ Land (Primary Leadership

Qualification). The SQ requires that students participate as a member in no more than three patrols. At the PLQ level, students are assessed as a patrol commander once and, due to the nature of training, may participate as a member in as many as four additional patrols (according to the course training plan). Therefore, by the time a Crewman becomes a crew or patrol commander, he will have less than ten supervised patrols to his credit. This does not take into account on-the-job training between courses and as part of training at the unit.

Learning by osmosis is a sad reality of life in the military. I say sad because we have all had experiences learning in this way: the quality of instruction is sometimes questionable and there is no quality control. In the case of patrolling skills, osmosis will only work in the presence of a skilled mentor. The loss of Assault Troops has started a chain reaction that will eventually eliminate dismounted expertise throughout the Corps.

Before going any farther, I want to make it absolutely clear that this is neither an impassioned plea for the return of Assault Troops nor an emotional lament for their passing. I do not intend to debate Army rationalization initiatives. The fact remains, we are losing Assault Trooper qualified Crewman every year and doing nothing to replenish that expertise. Solutions to restore our expertise prove problematic but ultimately workable.

The most painfully obvious solution would be to increase the about of dismounted training conducted at the SQ, DP 1 Crewman, and PLQ level. This is easier said then done. Disregarding who has possession of these courses, increasing training at that end would only serve to better prepare our most junior Crewman rather than our junior leadership (crew commanders and patrol commanders). Any discussion of expanding training runs into the brick wall that is instruction



rationalization – a mathematical obsession to reduce training costs. Conversely, any expansion of training must be accompanied by a corresponding increase in resources. Given the scarcity of resources, this becomes problematic. Therefore, any solution must be as cost-effective as possible in terms of staff time, monetary cost, and use of material.

With the focus of Armour School training moving to the DP 3 Crew Commander course for the next few years, we are presented with the excellent conditions to address our diminishing expertise. While I do not recommend that dismounted patrolling become an assessed item on this course, dismounted skills could subtly be worked into the program. A short refresher could be taught early in the field portion of training and directing staff could provide more mentoring and feedback on the dismounted portions of student traces. Beginning this now would also allow us to take advantage of those remaining Assault Troopers we still have in the ranks, but it does not address how we will tackle this training in the future.

The centre of excellence for dismounted reconnaissance is the Infantry School. The refresher training mentioned above would best be conducted with experts from that School and, if at all possible, early traces could include some Infanteers who could speak to the finer points of dismounted operations. This provides only a stop-gap solution. Ultimately, the Corps would need to reacquire these skills by means of a qualification. The solution is presented in terms of the Infantry's Reconnaissance Patrolman's Course and the Advanced Patrolling Course. Just as we qualify our junior leadership as advanced gunners, we should explore qualifying some in dismounted patrolling.

An indisputable fact about mounted reconnaissance is the requirement to dismount to perform certain aspects of the mission, regardless of type of operation. Assumptions about unqualified skill levels often lead to embarrassing realizations with potentially disastrous consequences. By increasing the focus on dismounted skills as part of training at the Armour School, and by providing expert mentors from which junior leadership can learn, we will begin to address the realities of life in the patrol and better prepare our Crewman, crew commanders and patrol commanders for future operations.



#### Situation Friendly: Tactical Aviation By Capt Dale Childs

Typically, we think of Tactical Aviation (Tac Avn) only in terms of airlift, whether it is for insertion or casualty evacuation. Those few who have worked operationally with Tac Avn have done so with the helicopters of other nations rather than our own. While these perceptions reflect a gulf that has grown between the Air Force and the Army in the last decade, it does not accurately reflect the current state of Tac Avn. More precisely, these faulty perceptions hide the ability of Tac Avn to support our mounted reconnaissance.

Having no experience with helicopters myself, I was somewhat surprised to learn of the similarities between the Armour Corps and Canadian Tac Avn. Along with mobility (airlift), Tac Avn is also responsible for reconnaissance and directing fire: tasks shared by reconnaissance patrols. To meet these responsibilities, training institutions such as 403 Helicopter Operational Training Squadron (HOTS) actively train new pilots in reconnaissance techniques as well as how to direct fire against the enemy. While we in the rank and file of the Army perceive a huge gulf between the Air Force and ourselves, they go to great lengths to make helicopter pilots aware of Army requirements. This includes sending pilots on the demanding Army Operations Course (AOC) in Kingston. Typically, we do not know of such behind-the-scenes work and are quick to dismiss Tac Avn because we seldom, if ever, work with it. This was not always the case.

Over a decade ago, in the time of the CH-136 Kiowa, the Armour Corps – more than any other combat arm – was integrated into helicopter operations. We provided observers to the Kiowa Squadrons in order to facilitate Tac Avn's ability to work with armoured reconnaissance. The retirement of the Kiowa fleet in the 1990's resulted in an increased separation between the Armour Corps and Tac Avn. In the time since, a gulf emerged in our ability to interoperate to the point that few in the Corps – and the Army – see the relevance of Tac Avn other than for its stereotypical airlift capabilities. In order to bridge this gulf, Tac Avn is looking to upgrade the Griffon with technology we in the Corps take for granted.

To understand the current state of the Griffon in the reconnaissance role is to look back at the Armour Corps before the



Coyote. Then, we were Lynx-bound without sophisticated electronics. We relied on mud observation posts, binoculars, and had only the most primitive night vision capability. This is precisely where the Griffon stands today. Although working in the reconnaissance environment, it lacks the electronics and sensors necessary to have standoff with the enemy or accurately correct fire. It also lacks a mounted weapon system other than the C6 machine gun (door gun), which is used only in self-defence.

The Air Force's attempt to modernize the Griffon's sensor capabilities was the Electro-Optical Reconnaissance Surveillance and Target Acquisition (ERSTA) plan. Although funding for this project was cancelled recently, 403 HOTS recognizes that it will only be a matter of time before an electro-optical device (EO) is bought and integrated into Tac Avn. To plan for this unknown date, they are training their aircrews in the concepts and practices they will employ in the reconnaissance role.

#### Read more ERSTA in the <u>Maple Leaf</u>

With the incorporation of a modern EO capability, Canadian Tac Avn will be able to perform specialized functions we in the Armoured Corps take for granted. For example, thermal imagery and day cameras will allow the Griffon to maintain a greater standoff distance from target area and enemy contacts. In addition, a laser range finder and designator would provide accurate contact data and guide precision munitions directly onto the target. Effectively, EOs will bring Tac Avn in line with the Corps' current capabilities. Furthermore, such a platform – airborne and highly mobile – will become invaluable in the completion of reconnaissance tasks. It will be conceivable that EO-equipped Griffons will work closely with Recce Sqns during the full spectrum of operations, providing over watch and/or gaining access to areas denied the Coyote. Therefore, despite the hiatus of cooperation between the Corps and Tac Avn, the acquisition of an EO device would allow a rejuvenation of this relationship for the benefit of both forces. Until an EO equipped Griffon is fielded – and, at this time, no date has been set – we must develop an interim plan that will prepare both Tac Avn and the Recce Squadrons for the future.

#### • Read more about the role of Aviation in the Interim Army Model.

It should be clear at this point that there is a need for the Armour Corps to start working closely with Tac Avn and vice versa. At present, each is learning skills in isolation that will only lead to difficulties when both are required to work together during operations. Given that the Armour School and 403 HOTS are collocated, and both are the primary schools for instruction of their respective occupation, it seems only logical that cooperation should start here.

Armour Corps career progression requires that both NCOs and Officers pass through the Armour School, usually at several points in their development. Any leadership training that is conducted at the School, must strive to include helicopter support in order to indoctrinate the Corps' future leadership of Armour-Tac Avn interoperability. Not a single leadership course should leave Gagetown without having become more intimately familiar with Tac Avn. Ideally, helicopter support would be given to courses in the field so that junior leaders could learn to confidently work with Tac Avn in the accomplishment of the mission. Furthermore, constant liaison and support must be provided to 403 HOTS in order to ensure that the tactics, techniques and procedures they are employing are relevant to the changing Armour Corps and Army.

Special thanks to Major Denis O'Reilly, Officer Commanding Aviation Tactics Flight, and Captain Mark Currie, Training Coordination Officer, 403 Helicopter Operational Training Squadron.

Managing Editor's Note – 403 HOTS has establish a computer tactics lab that utilizes Steel Beasts Pro, a computer game that many militaries have refurbished to assist virtual learning. In April, 403 and the 8th Canadian Hussars (Sussex) completed a six-day simulation of an Aviation Battle Group, in which reconnaissance helicopters and armoured forces worked in a multi-national framework. According to Maj O'Reilly, this is the first of many future exercises that, with the support of the Combat Training Centre, will increase the interoperability of the combat arms and Tac Avn.



Weapon Effects Simulation: Training the Army for the Future Battlespace By Maj Tony Balasevicius and Capt Rick Smuck



Major Tony Balacevicius, and Captain Rick Smuck are part of DLR and currently working on the Weapons Effects Simulator Project.

Over the next ten years the Canadian Army's vision is to evolve into an agile, tactically relevant, globally deployable force that is interoperable with its allies and coalition partners. To this end the Army commander has asserted that he is committed to fielding "a viable and affordable force structure trained and equipped to generate advanced combat capabilities that target leading edge doctrine and technologies relevant to the battlespace of the 21st century." Although easily articulated, the implementation of such change is far more complex. An important element in the Army's ability to carry out its transformation efforts will be the integration of advanced simulation technology into its training and combat development processes.

The reason for this is simple; experience gained by other armies has proven that simulation systems are excellent tools to accurately simulate the effects of weapon fire and to objectively measure performance and readiness. More importantly, it has been shown that when used during pre-deployment training for operations, these systems significantly improve the probability of mission success by permitting soldiers to train as closely as possible to the way they will operate. The Canadian Army also believes that simulation technology will help it transform from the "Army of Today" into the "Army of Tomorrow" by providing a realistic synthetic environment to test and evaluate new concepts. The foundation of this capability will be the Army's new Weapon Effects Simulation (WES) system.

WES is a live simulation system<sup>2</sup> that will permit soldiers and their vehicles to accurately simulate weapons fire using lasers and radio signals during force-on-force training exercises. When fully implemented the WES system will comprises a number of sub-systems that will be fully integrated into Army training. These sub-systems include the Direct Fire Weapon Effects Simulators, or DFWES, the Area Weapon Effects Simulation, or AWES, the Exercise Control, or EXCON, the Communication and Information System, or CIS and the Contractor Conducted Logistics Support, or CCLS.<sup>3</sup>

Engagements will be initiated and recorded using DFWES, which include lasers mounted on all direct fire weapons such as rifles, machine guns and missiles, as well as laser detectors integrated onto all player units. Soldiers and vehicles will be equipped with miniature computers, radios, global positioning systems and power packs used to process, transmit and receive all engagement data. DFWES also includes the Observer Controller equipment that initializes player status and collects engagement data directly from players for field After Action Reviews. In order to simulate indirect and area fires WES will use an AWES system.

AWES is computer software generated, radio transmitted simulation of area weapon fires. Area weapons include artillery and mortars, minefields, and nuclear, biological and chemical events. Observer Controllers will create and transmit AWES engagements based on exercise requirements or those initiated by authorized players. The sophistication of AWES events will depend on the suite the soldier is using.

Several different suites of WES equipment will be delivered to the Army. The principal one will be a permanent, fully instrumented, installation in Wainwright, Alberta where Army Task Forces of up to 2200 soldiers and vehicle players will conduct force-on-force training during the final stage of their high readiness preparations. Controlled by staff at the new Canadian Manoeuvre Training Centre (CMTC) this Task Force suite will play a key role in training soldiers to meet the complexities of the "three block war." <sup>4</sup> In addition, an Exercise Control Center or EXCON will be built at CMTC to control and coordinate the various activities during WES play at CMTC.

This facility will house all the people, hardware and software required to run WES exercises and to carry out future research for the Army. The facility will include the computers, databases and software required to conduct Exercise Planning and Preparation (EPP), as well as monitor, capture and record engagement data. The capturing and recording data for the EXCON facility will be done using the CIS backbone. The CIS is a separate radio system that will be used only for the transmission of engagement data between the EXCON and the players in the field. However, not all suites will have this level of capability.

A subordinate suite, with enough equipment to outfit a Combat Team of 500 soldier and vehicle players, will be located at the Combat Training Centre in Gagetown, New Brunswick. Army schools will be able use this equipment to dramatically enhance their individual training courses. As there is little need for a research capability with this suite it, like the

Dismounted Company Suites (DCS) will be non-instrumented,<sup>5</sup> and will only include Direct Fire Weapon Effects Simulation lasers and detectors, and Observer Controller Devices.<sup>6</sup>

The Army will take delivery of 13 non-instrumented, DCS each with enough simulation equipment for 150 soldier players. These suites will be controlled centrally for allocation to Regular and Reserve Force units during home-station training. Two of these suites will be allocated to individual training; one will go to CTC while the other will be broken down for platoon level use at each of the Area Battle Schools. Although, the training of soldiers in dismounted operations is important it is only one aspect of the WES experience. A key feature of the system will include all vehicles being equipped with the Precision Combat Training System or PCTS.

PCTS has been adapted to work as the vehicle's Direct Fire WES (DFWES) equipment. Extensive testing and research has been carried out to ensure the system's performance closely replicates the ballistic ability of the host vehicle's firepower and vulnerabilities. For example, the Leopard C2 will be able to shoot to 2400 m with SABOT or up to 4000 M with HESH. Terminal effects have been modeled so when a hit is achieved, effects in the form of a mobility, firepower, communications or catastrophic kills will be assessed according to the aspect of the target and its range from the shooter. With this information the PCTS will draw data from the computer and sensors on the firing vehicle to make its ballistic calculations. To make training as realistic as possible the WES PCTS is equipped with a scanning laser and is capable of compensating for firing on the move at all engagement ranges.

This capability is replicated for all player vehicles including the LAV III and Coyote. The Leopard will be equipped with a Main Gun Smoke Simulator that holds 60 pyrotechnics to simulate the smoke, bang and muzzle flash of firing the main gun and is similar in concept to the Hoffman or sim-cannon systems. The gunner will use the vehicle sights, which will house a trace burn unit that injects obscuration and a trace simulation into the sight picture. The laser button will fire an eye safe ranging laser that will display a range to target in the range readout, and the loader will select the correct ammunition and then arm the gun. However, rounds will not be loaded into the chamber, which is a departure for current procedures. The gunner will then track the target and fire when ordered.

During the tracking, the target vehicle receives the range signal from the firing platform and sends a return signal, by radio, to the firing vehicle. The imbedded coding will provide additional information such as protection factor data (this includes add on armour protection) and player identification information. Once this information is received, the firing vehicle will compute a ballistic solution. The coax C6 will require blanks to initiate the firing of the laser, which will reinforce the need for proper drills by all crewmembers.

Although, WES vehicle kits have been designed to be as unobtrusive as possible, the fielding of the equipment will result in some changes to the way crews operate. For example, crewmembers will now need to be dressed in tactical vest when mounted in their vehicles. This is because a crewman in or around his/her vehicle will be automatically associated with that vehicle. This identification allows the crews movement to be tracked at the EXCON when inside the vehicle so that if the vehicle takes a hit and is damaged or killed, the crew inside will also be killed or wounded, depending on the extent of the damage the vehicle has receives.

Once the crew dismounts and moves away from the vehicle, their personal GPS and player unit automatically reestablishes communication with the EXCON and the soldier is reconfigured as an independent player. That being said, the idea is to focus the crew on fighting the vehicle and not the equipment. With this concept in mind the WES project team has carried out extensive testing with the designed of the vest to insure crew comfort.

All aspects of the system have been designed with "the soldier is first" attitude. In order to keep the maximum number of soldiers training with and not supporting the WES, the system will be maintained using Contractor Conducted Logistics Support or CCLS, this is the integrated provision of all support and repair services to WES for a ten-year period following final delivery. All suites will include some form of CCLS and CUBIC Defense Applications of San Diego, California has been contracted to provide the Army with the WES system, and the appropriate CCLs. This means that soldiers will not be taking away from units to look after and maintain all of this new kit when it is delivered to the Army.

In fact, testing and delivery of the system has already begun with the successful completion of System acceptance Test I, held in Wainwright in November 2004, to test the dismounted company suites. The next major milestone will occur during the last two weeks in July 2005 and will test complacence of the vehicle systems. Final testing and deliveries are expected to be complete by the end of 2005. The first full year of training with the Weapon Effects Simulation system is



currently scheduled to start in the spring of 2006.

• For more information on WES you can visit the Army's WES website

#### Notes

- 1 Canada, Shaping the Future of the Canadian Forces: A Strategy for 2020 (Ottawa: Department of National Defence, 1999), p. 1.
- 2 Live simulation occurs when real people use real systems to conduct a simulation. WES is a live simulation system that will permit soldiers to use themselves, their real weapons and their vehicles as simulators. Each weapon will fire blank ammunition that triggers the firing of a laser pulse. Each laser pulse simulates the firing of real ammunition. Laser detectors on the players detect hits or near misses. Virtual simulation of some area weapons will be the only exception to this, where soldiers will fire area weapons that are simulated by computers. See WES FAQ<a href="http://www.forces.gc.ca/wes/questions-e.html">http://www.forces.gc.ca/wes/questions-e.html</a> accessed 17 January 2005.
- 3 Question No. 1 What is the Weapon Effects Simulation system? < http://www.forces.gc.ca/wes/questions\_e.html> accessed 17 January 2005.
- 4 WES Homepage <a href="http://www.forces.gc.ca/wes/main\_e.html">http://www.forces.gc.ca/wes/main\_e.html</a> accessed 17 January 2005.
- 5 Fully instrumented refers to the Communication and Information System (CIS) in the Wainwright suite, that transmits signals between the Exercise Control facility and the players in the field. There will be no CIS in the Gagetown suite hence it is referred to as being non-instrumented. See WES FAQ, Question 2 What is the difference between a fully instrumented and a non-instrumented WES system? < <a href="http://www.forces.gc.ca/wes/questions\_e.html">http://www.forces.gc.ca/wes/questions\_e.html</a> accessed 17 January 2005.
- 6 Observer Controller Devices are able to store sufficient engagement data to carry out AARs at the company level.



#### **Commentary**

#### Comments on "CSS for Reconnaissance Squadron" by Capt Hume (Nov 04) by MWO DW Head

Having been a SSM in a Recce Sqn with a proper A1 Ech, I am inclined to agree with you fully. Regarding your statement about the strain this would have on the CSS world, also keep in mind that this problem could be three fold at any given time. We, the RCD, once properly manned, could potentially have 3 Recce Sqn's. When one Sqn alone has a screen frontage of 50 km, imagine the time it will take to replenish this organization! Now let's further compound this scenario with an Ech thats untrained..... It will be exactly as you stated.

I have had some rather unpleasent experiences with Ech's from other organizations. The SSM has better things to do when conducting Replenishment Ops than to hold up or have to go look for stray sheep. This will also consume great amounts of time in the area of Battle procedure, briefings and rehearsals etc. If this sounds like it's just coming off the wall, I apologize. We just finish our Regt Ex. Sleep was not one of the priorities.

Thats about all I can think of at the moment. Plse direct any other queries/questions you may have regarding this or any other issue that I may be able to shed some light on!

# Comments on "The Recce Debate: Dismounts in the New Reconnaissance Structure" by Capt Josh Major (Nov 04) by Maj D.A Bourque

In reading this article in the Armour Bulletin, I agree with the author that with the employment of surveillance assets and reliance on technology, the reconnaissance squadron more closely resembles a surveillance squadron. Ask anyone who has deployed to Afghanistan and they will also agree that the squadron does less surveillance and more reconnaissance / cavalry tasks. The capability gap indicated in the article does need to be addressed, for the very reasons given by the author.

I noted without surprise that no mention was made of the Reserve Force. The author suggested that attaching an infantry company to a reconnaissance regiment would give the wanted depth for local security, etc. I can't see where these soldiers would be readily freed up from a Regular Force unit. What's more, the Reserve component of our own corps has now moved from a combination of direct fire support and reconnaissance to reconnaissance alone. Using the LUVW C&R as a platform, two dismounts per vehicle could be realized by simply using the fourth seat. Although the plausible employment of Armour Corps Reservists is not mentioned by the author, the fact that this component has been re-roled and is being re-tooled should indicate the capability. If the new role of Reserve Force armour reconnaissance squadrons



is not to conduct the very tasks they're being trained for, then why was the decision made to re-role them? The efficiencies in retiring the Cougar are not alone in this decision being made.

In order to justify the continued investment of the Armour Corps in the Reserve Force, the component must have a relevant and achievable mission. The decision to re-role the entire component to armour reconnaissance leads me to suggest that these assets must be made deployable on a scale consistent with current and future operations.

# Comments on "MGS: The Future of American Warfare?" by Capt Platt (Nov 04) by LCol CD (Doug) Claggett

I have read with interest not only Capt Platt's article on the MGS but many others that these day seem to be centered on the acquisition program for the MGS for the Corps. While there are many excellent points made on both sides of the fence regarding the MGS, the Medium Weight Force, or the evolving Force Employment Concept (FEC), it is critical not to confuse matters by mixing and mismatching either operational lessons learned from the US Army. The use of these lessons, perspectives, and "analysis", without understanding either the framework of the comment or an understanding of its context, can lead to wrong conclusions.

Specifically, in Capt Pratt's articles there appears to be some confusion on what lessons were learned at what point in OIF. I do not disagree with the conclusions made regarding matters of mobility on roads, operations in Kosovo or the like, simply the lessons being articulated as being all encompassing during OIF. The reason heavy forces were used in the beginning of OIF was based on the need to conduct Major Combat Operations (MCO) against major combat units armed with main battle tanks, IFVs and an array of anti-armour systems. In fact the analysis by the US Army has and continues to state the need to retain combat units (Heavy Units of Action) equipped with M1s and M2/3 well into the future to deal with MCOs. Again, many of these arguments are not incorrect, but somewhat narrow when examined in the context of the US military framework. For example, an SBCT could deploy to be a "tripwire", but that force deterrent operation (FDO) will still be depending on strategic lift availability, location, and the threat. Such a situation did occur prior to the beginning of OIF and it was determined that the need was for heavy forces from the 3d IN Div, with its M1s, M2s, MLRS, and AH64s, because they could deploy quicker and easier to the region based on the Army Positioning Stocks (APS) that were in theater. The matters is not what platform, but how to employ capabilities. Yes, an SBCT with MGS can do Forcible Entry Operations (FEOs). But this same force, unless shipped by surface, will still require a secure airport of debarkation (APOD) to offload from the C17s and C5s. Again this is a matter of context.

The SBCT and MGS do provide these commanders with "new" capabilities for both tactical, operational, and strategic employment. Care, however, must be exercised in assuming too much of a system or capability for which it was intended to be used. That is why the US Army will continue to employ and use a variety of Units of Action (Infantry, Armour, SBCT, and the FCS) well into the next decade. The MGS will provide a direct fire capability to the SBCT that it currently does not have in its formation. Likewise, the SBCT has proven that it is capable of robust and extensive employment in the current distributed theatre of operation of Iraq. Many great lessons have been learned about the STRYKER in the Low Intensity Operations (LIC) and more will come. However, we must view the capability within its context and not draw false conclusions about capabilities, for environments in which it did not participate, was designed to operate in, or will likely be employed in the future.

# Comments on "Terminology: Reconnaissance Terms Redefined" by Maj Royer and Maj Follwell (Nov 04) By LCol Charles Branchaud

I have read Folwell/Royer paper in reference to the subject. While I agree with some of the definitions, I would warn against further "Americanism" coming into our vocabulary. Already we are talking about "Centre of Excellence" (as if school is not good enough!!), we now seem to want to adopt the Cavalry term for what we always referred to as Armoured Reconnaissance task. What is this? Total assimilation to the US Army? There is noting wrong with the terms we traditionally employed in the Corps and no reason we should assimilate further to the Americans.

Rebuttal by Maj Follwell



I am strongly encouraged to see the dialogue being generated from the recent articles. I would like to respond to the comments on my article. From my perspective, this is not an "Americanism" as thought by LCol Branchaud but a return to our heritage and roots: are we not still the RCAC (Cavalry) and do we not take our lineage from the Cavalry Corps?

I would advocate that the tasks we do now align closer with our traditional cavalry roles vice the Armour/Recce split that we evolved into between 1940 and 2003. My suggestion is that our transformed Corps now does more activities associated with traditional/historical Cavalry. Even within our new terminology, Recce is but one capability that our force brings to the force along with Surveillance and Counter-Recce. To continue to call our forces by the old terms gives people the impression that we only do those same old tasks connected with the more "limited" Armd or Recce roles. The term Cavalry in our own historical sense (and that of AUS, UK and others) is a more fitting term for the scope of capabilities that the Corps can now bring and it forces people to look at the employment of our Corps in a new light vice making assumptions based on outdated terminology.

I also suggest that there is a common fault within our Army and Canada in general, as indicated by the use of the term "Americanism", where people have a general tendency to be phobic about everything American and in this case too quick to assume that the term "Cavalry" automatically means "US Armoured Cavalry". I realise that we cannot afford their version, nor does our FEC suggest that our role calls for that heavy force.

### Comments on "Terminology: Reconnaissance Terms Redefined" by Maj Royer and Maj Follwell (Nov 04) By WO T.C.B. Falls

"Gain and Maintain Contact. Reconnaissance elements, along with other ISTAR assets, must detect and report all enemy contacts quickly and correctly. Once contact has been made, it must be maintained and further developed. Maintaining contact is critical so that efforts do not have to be made to re-acquire the enemy and create unnecessary risk. Reconnaissance elements may be able to break contact once other ISTAR assets have been used to maintain contact or the target has been destroyed. Contact may be broken on order to continue with higher priority tasks."

I would recommend adding: ".....or to avoid destruction of own elements."

Obvious? Yes, but not obvious enough in the past. Too many cars have been left to "Die In Place" on exercises because higher wanted to know EXACTLY where every last OPFOR tank was. The current trend towards the rest of the Army viewing Recce Sqns as portable DEW Lines will exacerbate this tendency. In fact, there is no need to know where EVERY en C/S is, that's why we give our Svc Bns Carl Gustavs.

We can accept the risk and break contact, or we will needlessly lose cars and irreplaceable crews.



#### **About the Armour Bulletin**

The Armour Bulletin is the professional journal of the Armour Corps. As such, the Armour Bulletin strives to provide relevant articles and comments for the officers and non-commissioned members of both the Regular and Reserve component of the Corps, as well as retired members.

The Armour Bulletin staff consists of:

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- Maj P.A. Turner, Managing Editor (Turner.PA@forces.gc.ca);
- Capt D.L. Childs, Editor (Childs.DL@forces.gc.ca); and
- Capt J.B.D. Michaud, French Review.

**Article Submission Requirements.** The Armour Bulletin welcomes articles and comments on topics relevant to the Armour Corps. The Editors ask that the following guidelines be followed:

- Articles can be submitted in either official language.
- Articles should be between 500-1500 words and submitted electronically to the Editor. Images and endnotes should not be embedded in the text.
- Comments can be submitted directly to the Editor, preferably via email.
- The Editorial staff reserves the right to deny the publication of an article/comment or to edit articles/comments for content or length.



# **FOREIGN ARMY ARTICLES**

- Australia. "Regional Force Surveillance: Keeping an eye on the Pilbara" by Cristy Symington

  This is a news piece from the Australian Army which highlights their real-time reconnaissance and surveillance commitments to national security.
- 4 <u>United States. "Future Combat Systems an Overview" by BG(P) Charles A. Cartwright and Dennis A. Muilenburg</u>

This is the lead article from the U.S. Army website dedicated to Future Combat Systems (FCS), <a href="https://www.army.mil/fcs">www.army.mil/fcs</a>. While Canada struggles with the Force Employment Concept, the American Army has launched the technological aspect of what we would call the "army of tomorrow." Their "18+1+1" outlines the extent to which FCS will be part of joint forces throughout the spectrum of conflict. Furthermore, they have made strides in rapidly deploying trial systems to Evaluation Brigade Combat Teams (E-BCT) in order to validate, correct and speed distribution of new technologies to soldiers. If nothing else, visit the FCS site at <a href="https://www.army.mil/fcs">www.army.mil/fcs</a> to learn more about the army of tomorrow.

6 <u>United States. "Iraq: The Social Context of IEDs" by Montgomery McFate, J.D., Ph.D.</u>

This article focuses on the social elements that contribute the construction and use of improvised explosive devises. Of interest is the Social Network Analysis (SNA) that Dr. McFate refers too, which acts like a human intelligence collection plan. Unfortunately, she does not elaborate on this topic. She does draw some conclusions that seem – to those with operational experience – fairly self-evident: the need to gain the support of community leaders and the local population. Of note on the strategic side is the requirement to plan for the cessation of the combat phase by controlling resources that could be used by insurgents.

9 <u>United States. "Best Practices in Counterinsurgency" by Kalev I. Sepp, Ph.D.</u>

For those who have read extensively about insurgency/counterinsurgency, you will learn little new in this article. However, for those not as well read, Dr. Sepp will outline the principal factors associated with counterinsurgency, from the requirement for legitimate law enforcement to sound operational practices. it is a good bet that any failed (or failing) counterinsurgency can quickly identify its problems in this article.

<u>United States. "Canada's Global Role: A Strategic Assessment of its Military Power" by Col Joseph R.</u>
Nunez

At first glance, an American Army officer writing about the Canadian Military seems ripe for innocent inaccuracies. However, Col Nunez provides a very fair handed and realistic appraisal of the Canadian Forces. Starting with a historical overview of the CF from World War II to present, Col Nunez elaborates on the many political factors which have helped and hindered the CF. He also asks hard questions about the future of the CF and Canada's role in the twenty-first century. It should be noted that this article was published a year ago and is unable to comment on the new Minister and Chief of Defence Staff (reflected in the Defence Policy Statement).

**24** About Foreign Army Articles



### Regional Force Surveillance: Keeping an eye on the Pilbara Army Deputy Editor Cristy Symington

Australia: Army News, May 2005

Red dust sneaks in everywhere it can – in your eyes, up your nose and into the depths of your ears. It quickly builds up during the long hours spent driving on sandy four-wheel drive tracks snaking their way through the Pilbara.

So untouched, so beautiful, yet sometimes so inaccessible. North Western Australia is home to some of Australia's richest export resources and a vast coastline high on our national security agenda.

The Pilbara Regt is the eyes and ears of the area, guarding our sunburnt country.

**Surveillance and reconnaissance, watching and listening.** The Pilbara, 500km north of Perth covers some of Australia's harshest landscapes and demands a high level of commitment from anyone attempting to work there.

Soldiers in RFSU The Pilbara Regt, think nothing of spending a full day bouncing in a 4WD across endless sand dune tracks at 20km/h just to talk to a homestead owner to develop infrastructure information.

It can be a long time between fuel stops and miles and miles of nothing more than a dusty red road and a few scrubby shrubs. But spend a little more time in the area and discover the harshness commands forward thinking and requires a high level of independence.

The regiment's operations area covers more than 1.3 million square kilometres, from the Kimberley boundary in the north, south to Shark Bay and west to the Northern Territory-South Australia-Western Australia border junction.

A major role for the unit is protecting some of our country's treasure chest of natural resources.

The three biggest export earners are petroleum, iron ore and salt, which together bring in about \$25 million a day.

The regiment's responsibility includes the oil and gas projects of the North-West Shelf and other islands including the Cocos (Keeling) Islands and Christmas Island.

Surveillance and reconnaissance to protect these assets and provide a security screen is organised under Op Cranberry.

The operation, which started in 1997, is commanded by Norcom, using assets from all three services.

Regimental Headquarters is in Karratha, home to C Troop and Operational Support Sqn, while other sub-units are located at Port Hedland (HQ1 Sqn, D Trp), Newman (A Trp), Tom Price (B Trp), Exmouth (HQ2 Sqn, G Trp), Pannawonica (F Trp), Carnarvon (E Trp) and Perth (3 Sqn).

Apart from the remote location, what makes this regiment stand out from other Australian Army units is that it rarely spends any time training – it's all real-time work.

CO Lt-Col Craig Johnston said the high operation output was just part of the job.



Sgt Gavin Mallard uses a Swarovski scope to keep an eye on the Pilbara



Pte Gregg Coffee, based in Carnarvon, takes his turn at the observation post.



A Regional Forces Surveillance Vehicle follows the vermin-proof fence to get to the patrol observation post.



For Patrol Commander LCpl Rowan Bird the hot dry weather is just part of the job.



"Regional Force Surveillance Units are unique – this is a war-time job in a war-time location right now," he said.

"While this is not like Timor, the unit contributes to our National Surveillance Plan.

"Kicking dirt in training doesn't exist here."

There are almost 300 members of the Pilbara Regiment, including about 40 ARA soldiers. Strong support from the local community is a major contributor in the reserve section.

It is a fully integrated regiment which relies on local knowledge in understanding the area of observation to establish patterns in surveillance.

The Pilbara Regt RSM, WO1 Gary Howard, said full-timers and reserves worked well in the regiment.

"I think it's due to the commitment and enthusiasm and that these reserves can provide the required output," he said

"It means we've got better resources with a real job and given the tools to do it.

"For most reserve units, it's all training and no light at the end of the tunnel."

Two weeks ago, seven patrols of six reserves members were out on the third and largest annual patrol time.

Land or water patrols are deployed depending on the location of the observation post.

Their aim is to report on suspicious activity, establish normalcy patterns and confirm infrastructure.

Adj Capt Glen Kuschert said the ARA's role in the regiment included supporting the patrols and liasing with the community.

Since members live and work in the area of observation, they were continuously gathering information.

"Driving around and noticing what is happening can be as valuable as information we would get during a patrol," he said.

"The beauty is that when not in service, many of our members are in the environment of the AO, fishing for example."

Lt-Col Johnston agreed.

"The regiment is part of the community - they all live and work in the environment," he said.

"This is surveillance in their own back yards so establishing a rapport with the community is crucial."

Aside from organising its own patrols, the Regiment also works closely with the local civilian authorities and is a well accepted part of the community.

Lt-Col Johnston said the regiment spent much of its time liasing with state and federal agencies to maintain a good rapport.

"Through face to face discussions, the regiment works hard to maintain relationships with people like State and Federal Police, Customs, Conservation and Land Management, shire and regional Councils."

A further role of the regiment is offering support following cyclones and floods, under Defence Aid to Civilian Community.

**Rapid Deployment.** The regiment organises three patrols each year, and has the Rapid Deployment Patrol (RDP) for a swift response outside the organised patrols.



Capt Glen Kuschert heads up the patrol of six specialists. The highly-trained group includes a driver, medic, signaller and mechanic – they are in the regiment doing these things all the time so their skills are ready to go at short notice.

"We work closely with civil agencies supporting their requests to gather information they are not able to get," Capt Kuschert said.

"We're very independent on patrol, self-sufficient for seven days and able to be resupplied either by air or road so patrols can stay in the field for as long as needed.

"It's a demanding job in this environment, sometimes with heat up to 50 degrees on location with little relief at night."

Capt Kuschert said the team was in constant readiness to deploy up to seven days. Like routine patrols, the RDP conducts surveillance using the same equipment.

The main thing that sets RDP apart from other patrols is the team's reaction time and ability to deal with more complex tasks.

"This is the most experienced patrol in the regiment."

FOREIGN ARMY ARTICLES
ARTICLES ÉTRANGERS D'ARMÉE

# Future Combat Systems - an Overview BG(P) Charles A. Cartwright and Dennis A. Muilenburg

United States: US Army FCS Homepage, September 2005

BG(P) Charles A. Cartwright is the Program Manager for the Modular Force. He holds a B.S. degree in Personnel Management and Administration from Florida Southern College, and an M.S. degree in Procurement and Contract Management from Florida Institute of Technology and has completed the Army War College.

Dennis A. Muilenburg is the Boeing Integrated Defense Systems, Program Manager for the Future Combat Systems. He has a B.S. degree in Aerospace Engineering from Iowa State University and a M.S. degree in Aeronautics and Astronautics from the University of Washington.

The Future Combat Systems - FCS - is the core of the Army's efforts to ensure that the Army, as a member of the Joint team, will move, shoot and communicate better than ever before and better than any opponent it will face in the 21st century - any time, under any circumstances, anywhere that the Nation needs us.

FCS is about the 21st Century Soldier. Lessons learned in Operation Iraqi Freedom and the Global War on Terrorism have shown that a joint, combined arms, network centric force has the ability to both rapidly defeat an enemy in battle and act as a key element in follow-on peacekeeping efforts. The Army is using these lessons to fundamentally transform into a faster, more agile force with superior situational awareness and power projection capability.

#### • Learn more about FCS online

This force - the Army's FCS-equipped Modular Force - will be part of a Joint team that is decisive in any operation, against any level threat, in any environment. The Units of Action (UA) balances the capabilities for battlespace dominance, lethality, and survivability with its agility and versatility, deployability and sustainability. Although optimized for offensive operations, the UA can execute stability and support operations. The hallmark of UA operations will be the ability to develop situations out of contact, engage the enemy in unexpected ways, maneuver to positions of advantage with speed and agility, engage enemy forces beyond the range of their weapons, and destroy enemy forces with enhanced fires and assault at times and places of our choosing. At the same time, the FCS-equipped UA is designed with the durability, endurance, and stamina to fight battles and engagements for the duration of a campaign, focused on decisive points and centers of gravity.



The core of the FCS-equipped UA - is a highly integrated structure of 18 manned and unmanned (MUM), air and ground maneuver, maneuver support, and sustainment systems, bound together by a distributed network and supporting the soldier, (18+1+1 systems) acting as a unified combat force in the Joint environment. The network uses a Battle Command architecture that integrates networked communications, network operations, sensors, battle command system, training, and MUM reconnaissance and surveillance capabilities to enable situational understanding and operations at a level of synchronization not achievable in current network centric operations.

The MUM systems include:

- Unattended ground sensors (UGS)
- Two (2) unattended munitions
- Non-Line of Sight Launch System (NLOS-LS)
- Intelligent Munitions System (IMS)
- Four (4) classes of Unmanned Aerial Vehicles (UAVs) organic to platoon, company, battalion and Modular Force echelons
- Three (3) classes of Unmanned Ground Vehicles (UGVs)
- Armed Robotic Vehicle (ARV)
- Small Unmanned Ground Vehicle (SUGV)
- Multifunctional Utility/Logistics and Equipment Vehicle (MULE)
- Eight (8) Manned Ground Vehicles (MGVs)
- Infantry Carrier Vehicle
- Command and Control Vehicle
- Mounted Combat System
- Reconnaissance and Surveillance Vehicle
- Non-Line of Sight-Cannon (NLOS-C)
- Non-Line of Sight- Mortar
- FCS Recovery and Maintenance Vehicle
- Medical Treatment and Evacuation

FCS will provide the UA with several key attributes:

- Situational awareness that enables superior knowledge and survivability for the Soldier.
- Networked information and advanced, seamless command and control to allow soldiers to make faster decisions and move more quickly and more lethally than the enemy.
- Reduced platform (manned and unmanned) and organizational size, cube and weight, and the agility needed to get the right force to the right place at the right time.
- Embedded training and networked support that reduces the traditional logistics footprint for fuel, water, ammunition, and repair parts by 30-70%.

FCS is On Schedule, On Cost and Executing to Plan. The FCS System Development and Demonstration program has been ongoing since May 2003. In July 2004, the Army identified and announced adjustments to strengthen the FCS program and simultaneously improve the Current Force through early delivery of selected FCS capabilities. The adjustments maintain the Army focus on FCS-equipped UA development and substantially reduce program risk. The adjustments to the FCS Program acquisition strategy fall into the primary categories:



The Armed Robotic Vehicle (ARV) comes in two variants: the Assault variant and the Reconnaissance, Surveillance and Target Acquisition (RSTA) variant. The two variants share a common chassis. The Assault variant will remotely provide reconnaissance capability; sensors, direct-fire weapons, and special munitions into buildings, bunkers, and other urban features; locate or by-pass threat obstacles in buildings, bunkers, and tunnels, and other urban features; assess battle damage; acts as a communications relay; supports the mounted and dismounted forces in the assault with direct fire and anti-tank (AT) weapons; and occupy key terrain and provide over-watching fires. The Reconnaissance, Surveillance and Target Acquisition (RSTA) version will provide remotely reconnaissance capability in Urban Military Operations in Urban Terrain (MOUT) and other battlespace; deploy sensors, direct-fire weapons, and special munitions into bunkers, and other urban buildings. locate or by-pass threat obstacles in buildings, bunkers, tunnels, and other urban features; acts as a communications relay; and assess battle damage assessment (BDA).

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- The five previously deferred FCS core systems: 1) UAV Class II, 2) UAV III, 3) Armed Robotic Vehicle (ARV) (Assault and Reconnaissance), 4) FCS Recovery and Maintenance Vehicle (FRMV) and 5) integration for the Intelligent Munitions System (IMS) have been fully funded and will be fielded with the first FCS-equipped UA, allowing UA fielding of the complete 18 + 1 FCS core systems to begin delivery to the Army in 2014.
- The SDD program was restructured into a series of integration phases (IPs) that will cyclically develop, build and



- test FCS components and systems. These IPs incorporate robust experimentation, evaluation, and technology maturation efforts to prove out revolutionary concepts, mature the architecture and components, and assist in Spin Out development.
- A series of Spin Out (SO) packages, associated with IPs, will begin in 2008 and continue every two years through 2014 to evaluate and insert FCS capability into the Modular Units of Action consisting of mixed current fleet systems. These Modular UAs will have enhanced capability over Current Force Units and become the stepping stones to full Future Force capability.

The FCS core program will utilize the concept of an Evaluation Brigade Combat Team (E-BCT) - a Current Force Brigade Combat Team equipped with a mix of combat and tactical vehicles - to evaluate the spin-out systems and identify necessary technical changes for the FCS-equipped UA prior to MS C. Spin-Outs will bring the benefits of FCS to the soldier more quickly and allow technology maturation based on field-tested applications.

The adjusted program schedule will use an iterative development, integration and verification process to demonstrate readiness to move into Low-rate Initial Production and provide FCS SO capabilities to the Current Force. The SDD phase will lead to a FCS MS C decision in 2012, an Initial Operational Capability (IOC) in 2014, and a Full Operational Capability (FOC) FCS-equipped UA Brigade Combat Team (BCT) in 2016.

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### Iraq: The Social Context of IEDs Montgomery McFate, J.D., Ph.D.

United States: Military Review, May-June 2005 pgs 37-40

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Improvised explosive devices (IEDs) are among the deadliest weapons coalition forces face in Iraq, and defeating their use by insurgents is both essential and extremely challenging. Thus far, U.S. defense science and technology communities have focused on developing technical solutions to the IED threat. However, IEDs are a product of human ingenuity and human social organization. If we understand the social context in which they are invented, built, and used we will have an additional avenue for defeating them. As U.S. Army Brigadier General Joseph Votel, head of the Pentagon's Joint IED Task Force, noted, commanders should focus less on the "bomb than the bombmaker." 1

A shift in focus from IED technology to IED makers requires examining the social environment in which bombs are invented, manufactured, distributed, and used. Focusing on the bombmaker requires understanding the four elements that make IED use possible in Iraq: knowledge, organization, material, and the surrounding population.

**Knowledge.** The IEDs that are killing Americans in Iraq were not imported from abroad. Saddam Hussein's regime designed them. The insurgency's expert bombmakers are mostly former members of the Iraqi Intelligence Service (IIS), the Mukhabarat.<sup>2</sup>

The IIS unit called M-21 (also known as the AI Gha.qi Project) operated a laboratory that designed IEDs. Bomb manufacturing at M-21 was a collaborative enterprise: "No one person constructed an entire explosive device alone. . . . An improvised explosive device began in the chemistry department which developed the explosive materials for the device. The electronics department prepared the timers and wiring of the IED and the mechanical department produced the igniters and designed the IED." M-21 designed a number of clever ways to conceal explosives, including in books, briefcases, belts, vests, drink containers, car seats, .oor mats, and facial tissue boxes. M-21 also produced manuals on how to conduct roadside ambushes using IEDs; how to construct IEDs from conventional high explosives and military munitions; and how to most effectively take out a convoy by disguising an IED. The IIS M-21 unit is a key reason the Iraqi insurgency is so adept at constructing IEDs. They provided "the blueprints of the postwar insurgency that the U.S. now faces in Iraq."



Beginning in September 2003, IEDs became more sophisticated, evolving from simple suicide attacks to more complex remote-control, vehicle-borne IEDs and daisy-chained IEDs using tripwires. Such a rapid increase in technological sophistication indicates the infusion of "expert" knowledge into the process of building and deploying IEDs. The increased sophistication of IEDs over time also indicates that their design and construction has become a specialized function within the insurgency, rather than a dispersed function.

Functional specialization of IED manufacturing and emplacement suggests there are relatively few expert bombmakers. Indeed, the British Army believes insurgents have a small number of expert bombmakers who are involved in designing and mass-producing IEDs.<sup>8</sup> General Martin Dempsy, commander of V Corps' 1st Armored Division agrees: "I think that there is an element of central planning and central training and central supplying for improvised explosive devices." "9"

If bombmaking is a specialized function, coalition forces can take advantage of this in two major ways. First, if bombmakers are captured or killed, their expert knowledge dies with them. Although manuals can be instructive, knowledge gained through years of experience is not easy to reproduce through written instructions. Thus, removing the bombmakers would weaken the insurgents' ability to mass-produce bombs. Second, specialization of function makes those who plan, transport, and detonate bombs dependent on those who build them. Although the insurgency is organized in cells, multiple members of each cell must know the identity of the bombmaker in order to retain access if cell members are killed. Thus, multiple "customers" within the network know the bombmaker's identity.

Identifying the bombmakers should be an absolute priority, and the best way to identify them is through intelligence provided by the bombmaker's customers. Thus, where possible, cell members should be captured rather than killed.

**Organization.** IED deployment also depends on the existence of an organization dedicated to this task. According to a Joint Intelligence Task Force analysis, Iraqi officers of the Special Operations and Antiterrorism Branch (also known as M-14) are responsible for planning IED attacks. While major combat operations in Iraq were still occurring, members of M-14 scattered across Iraq to lead an insurgency. The operation was designed with little central control so cells would remain viable even if commanders were captured or killed.

British military sources have confirmed that the insurgency is composed of highly organized cells operating in small numbers. Typically, each cell has a variety of members who specialize in different tasks. For example, one group of insurgents consisted of two leaders, four subleaders, and 30 members. Broken down by activity, there was a pair of financiers; two cells of car-bomb builders; an assassin; mortar and rocket launching teams; and others in charge of roadside bombs and ambushes. Members of insurgent cells operate parttime and blend back into the civilian population when operations are complete.

While some foreign fighter might be present, the majority of insurgents are native Iraqis connected to each other and to the general population by social networks and relationships. The most important social network in Iraq is the tribe. Most Iraqis are members of one of 150 major tribes, which are subdivided into about 2,000 smaller clans. The largest clans contain more than one million people; the smallest, a few thousand.<sup>13</sup>

After Iraq's economic collapse following the Persian Gulf War, the Sunni tribal network became the backbone of Saddam Hussein's regime, with tribe members performing everything from security functions to garbage collection. Humiliated during Operation Iraqi Freedom, frozen out of positions of power by "de-Ba'athification," and having lost their prestigious jobs in the armed forces and internal security apparatus, Sunni tribal members have become the backbone of the insurgency. The tribes provide money, manpower, intelligence, and assistance in escape and evasion after an attack.

How do you locate insurgents within a tribal network? Social network analysis (SNA) provides valuable tools for understanding tribal organization and charting the links between tribes and insurgents. Social network analysis is the mapping and measuring of relationships and flows between people, groups, organizations, and computers or other knowledge-processing entities. These methods proved highly successful in capturing Saddam Hussein. The 104th Military Intelligence Battalion developed a social network program called "Mongo Link" to chart personal relationships using data from Iraqi informants, military patrols, electronic intercepts, and a range of other sources. One of the 62,500 connections led directly to Saddam.<sup>17</sup>



SNA resources, such as those under development at the Office of Naval Research, identify how to maximally disrupt a network by intervening with the key players and how to maximally spread ideas, misinformation, and materials by seeding key players. By using data about IIS members and their personal relationships within the Iraqi tribal network, SNA can describe terrorist networks, anticipate their actions, predict their targets, and deny the insurgents the ability to act.

**Material.** The insurgency's ability to construct IEDs depends on the availability of bombmaking materials, particularly explosives. The widespread availability of explosives in Iraq means the insurgency will have the material resources to build IEDs for many years to come. Currently, approximately 80 tons of powerful conventional explosives (mainly HMX and RDX) are missing from the former Iraqi military base at Al Qaqaa. These explosives could produce bombs strong enough to shatter airplanes or tear apart buildings and are probably already in the hands of the insurgency. The director of the Iraqi police unit that defuses and investigates IEDs notes: "One of the coalition's fatal mistakes was to allow the terrorists into army storerooms. . . . The terrorists took all the explosives they would ever need."

Because the insurgency is connected to the Sunni tribal system, certain sheiks probably know exactly where these explosives are stored. The sheiks are vulnerable in two ways: through their love of honor and through their love of money. Although they cannot be pressured to divulge the whereabouts of explosives through appeals to honor, because they see us as infidel adversaries, they are vulnerable to financial rewards. In Iraq, there is an old saying that you cannot buy a tribe, but you can certainly hire one.<sup>20</sup>

The ability to hire tribal loyalty is an aspect of the patronage system in Iraq. Patrons at the top dispense riches and rewards downward. Sheiks, who stand at the penultimate point in the patronage system, have a social responsibility to distribute funds downward to subsheiks, who in turn distribute resources to tribal members. Thus, the sheiks always need money to keep subsheiks loyal to them. Coalition forces should use this patronage system to buy temporary tribal loyalty. In so doing, they should be careful not to offer money as a "reward" for divulging the whereabouts of explosives, but as a show of goodwill to the sheik, combined with a humble request for assistance.

**Surrounding Population.** The insurgency seeks two kinds of support from the civilian population: active and passive. Civilians provide active support when they transport, emplace, and detonate bombs. Insurgents gain civilian cooperation through coercion, threats, and financial remuneration. Civilians provide passive support by allowing insurgents to escape and "disappear" among the general population. In this, the insurgency has an advantage, because officials from the remnants of Saddam's intelligence and security services know who is loyal, where they live, and with whom they associate.<sup>21</sup>

Even when Iraqis are not sympathetic to the insurgency's aims or methods, the fear that the insurgents might retaliate against them deters them from supporting the interim Iraqi government. The key to winning the war against the insurgency is to separate the insurgents from the surrounding population. As Mao Tse-tung said, "The people are water, the Red Army are fish; without water, the fish will die." Separation of the insurgents from the supporting population requires provisioning economic, social, and police security to the civilian population; establishing trust, especially through long-term relationships; and removing incentives for joining or supporting the insurgency.

#### Notes

- 1. Stephen J. Hedges, "U.S. battles low-tech threat," Iraq.net, on-line at <www.washingtontimes.com/national/20041008-123148-3363r.htm>, accessed 25 October 2004.
- 2. Rowan Scarborough, "Saddam's spies had grip on Iraq," Washington Times, 8 October 2004.
- 3. Charles Duelfer, "Comprehensive Report of the Special Advisor to the DCI [Director of Central Intelligence] on Iraq's WMD [weapons of mass destruction]," on-line at <www.cia.gov/cia/reports/iraq\_wmd\_2004/index.html>, accessed 6 October 2004.
- 4. Ibid.
- 5. Scott Ritter, "De.ning the Resistance in Iraq—It's not Foreign and It's Well Prepared," *Christian Science Monitor*, 10 November 2003. 6. Ibid.
- 7. Centurion Risk Assessment Services, Ltd., "Iraq Security Report," on-line at <www.militaryreporters.org/centurion9-18-03.html>, accessed 18 September 2003; James A. Capobianco, "IEDs: Enemy Steps Up Attacks Using Explosive Devices," *Infantry Magazine* (Winter 2003).
- 8. Tim Ripley, "The Insurgency Threat in Southern Iraq," *Jane's*, 20 February 2004. Four different types of IEDs have been identi.ed to date, including mechanically triggered devices; under-vehicle magnetic devices; and electronically operated and radio-controlled roadside devices.
- 9. BG Martin Dempsey, 1st Armored Division, V Corps, brie.ng on operations in Iraq, on-line at <www.vcorps.army.mil/news/2004/jan5\_brief.htm>, accessed 4 February 2005.
- 10. Thom Shanker, "Saddam's Secret Service Planned for Insurgency, Pentagon Finds," New York Times, 29 April 2004.
- Ripley.
- 12. Associated Press, "Iraq Insurgency Larger than Thought," USA Today, online at <www.usatoday.com/news/world/iraq/2004-07-08-insurgency-



count\_x.htm>, accessed 8 July 2004.

- 13. Neil MacFarquhar, "In Iraq's Tribes, U.S. Faces a Wild Card," New York Times, 7 January 2003.
- 14. Faleh a Jabar, "How Saddam keeps power in Iraq," Le Monde Diplomatique (October 2002).
- 15. Amatzia Baram, "Victory in Iraq, One Tribe at a Time," New York Times, 28 October 2003.
- 16. Paul McGeough, "Inside the Resistance," Sydney Morning Herald, 16 August 2003.
- 17. Farnaz Fassihi, "Two Novice Gumshoes Charted The Capture Of Saddam Hussein," Wall Street Journal, 18 December 2003.
- 18. James Glanz, William J. Broad, and David E. Sang, "Huge Cache of Explosives Vanished from Site in Iraq," New York Times, 25 October 2004.
- 19. Patrick Kerkstra, "Shadowy Insurgency in Iraq is Built on Homemade Bombs," Philadelphia Inquirer, 28 October 2004.
- 20. Baram.
- 21. Ritter. According to Ritter, "A chilling realization overcame us when we entered a gymnasium-sized room and saw that the .oors were painted in a giant map of the neighborhood. The streets were lined with stacked metallic 'in-box' trays—each stack represented a house or apartment building. A three-story building, for example, contained three levels of trays; each tray contained dossiers on each citizen living on that .oor. Similar units existed in other neighborhoods, including those deemed 'anti-regime."
- 22. Mao Tse-tung, quoted in David Clark, "To explain is not to excuse," *The Guardian*, 21 September 2001, on-line at < w w w. g u a r d i a n . c o . u k /wtccrash/0,1300,555444,00.html>, accessed 4 February 2005.

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#### Best Practices in Counterinsurgency Kalev I. Sepp, Ph.D.

United States: Military Review, Maj-June 2005 pgs 8-12

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It is fashionable in some quarters to say that the problems in Southeast Asia are primarily political and economic rather than military. I do not agree. The essence of the problem in Vietnam is military.

— General Earle Wheeler, 1962<sup>1</sup>

We can discern "best practices" common to successful counterinsurgencies by studying the past century's insurgent wars. Historical analysis helps us understand the nature and continuities of insurgencies over time and in various cultural, political, and geographic settings. While this does not produce a template solution to civil wars and insurrections, the sum of these experiences, judiciously and appropriately applied, might help Iraq defeat its insurgency.

Nations on every continent have experienced or intervened in insurgencies. Not counting military coups and territorially defined civil wars, there are 17 insurgencies we can study closely and 36 others that include aspects we can consider. Assessment reveals which counterinsurgency practices were successful and which failed. A strategic victory does not validate all the victor's operational and tactical methods or make them universally applicable, as America's defeat in Vietnam and its success in El Salvador demonstrate. In both cases, "learning more from one's mistakes than one's achievements" is a valid axiom. If we were to combine all the successful operational practices from a century of counterinsurgent warfare, the summary would suggest a campaign outline to combat the insurgency in present-day Iraq.

**Successful Operational Practices.** The focus of all civil and military plans and operations must be on the center of gravity in any conflict —the country's people and their belief in and support of their government. Winning their hearts and minds must be the objective of the government's efforts. Because this is a policy objective, it must be directed by the country's political leaders. Colombian President Alvaro Uribe pursued this course and gained broad support of the populace in the struggle against the Revolutionary Armed Forces of Colombia and National Liberation Army narcoterrorists. His government is weakening the insurgents' hold on their traditional zones of control and threatening their financial and recruiting base.<sup>3</sup>

**Human rights.** The security of the people must be assured as a basic need, along with food, water, shelter, health care, and a means of living. These are human rights, along with freedom of worship, access to education, and equal rights for women.<sup>4</sup> The failure of counterinsurgencies and the root cause of the insurgencies themselves can often be traced to government disregard of these basic rights, as in Kuomintung, China; French Indochina; Batista's Cuba; Somoza's



Nicaragua; and Soviet-occupied Afghanistan, among others. Recognition and assurance of these rights by the government has been essential to turning a population away from insurgents and their promises.

During the 1950s Malaya Emergency, British High Commissioner Sir Gerald Templer—a declared antiracist—strived for political and social equality of all Malays. He granted Malay citizenship en masse to over a million Indians and Chinese; required Britons to register as Malay citizens; elevated the public role of women; constructed schools, clinics, and police stations; electrified rural villages; continued a 700-percent increase in the number of police and military troops; and gave arms to militia guards to protect their own communities. In this environment, insurgent terrorism only drove the people further from the rebels and closer to the government.<sup>5</sup>

**Law enforcement.** Intelligence operations that help detect terrorist insurgents for arrest and prosecution are the single most important practice to protect a population from threats to its security. Honest, trained, robust police forces responsible for security can gather intelligence at the community level. Historically, robustness in wartime requires a ratio of 20 police and auxiliaries for each 1,000 civilians.<sup>6</sup>

In turn, an incorrupt, functioning judiciary must support the police. During a major urban insurgency from 1968 to 1973, the Venezuelan Government appointed the head of military intelligence as the senior police chief in Caracas. He centralized command of all Venezuelan police and reorganized, retrained, and reformed them. They fought and eventually defeated the terrorists.<sup>7</sup>

As necessary, military and paramilitary forces can support the police in the performance of their law enforcement duties. From 1968 to 1972, Vietnamese police and intelligence services, with military support, carried out project Phung Hoang, arresting and trying over 18,000 members of the nationwide Viet Cong command and intelligence infrastructure.<sup>8</sup>

**Population control.** Insurgents rely on members of the population for concealment, sustenance, and recruits, so they must be isolated from the people by all means possible. Among the most effective means are such population-control measures as vehicle and personnel checkpoints and national identity cards. In Malaya, the requirement to carry an D. card with a photo and thumbprint forced the communists to abandon their original three-phase political-military strategy and caused divisive infighting among their leaders over how to respond to this effective population-control measure.<sup>9</sup>

**Political process.** Informational campaigns explain to the population what they can do to help their government make them secure from terrorist insurgents; encourage participation in the political process by voting in local and national elections; and convince insurgents they can best meet their personal interests and avoid the risk of imprisonment or death by reintegrating themselves into the population through amnesty, rehabilitation, or by simply not fighting. The Philippine Government's psychological warfare branch was able to focus its messages on individual villages and specific Huk guerrilla bands because it employed locals and surrendered insurgents on its staffs.<sup>10</sup>

After the police and supporting forces secure a neighborhood, village, township, or infrastructure facility from terrorist insurgent activity, the government can apply resources to expand the secure area to an adjacent zone and expand the secure area again when that zone is completely secure. In Malaya, the government designated secure, contested, and enemy zones by white, gray, and black colors (a technique that mirrored that of the rebels) and promised rewards of services and aid to persons who helped purge an area of insurgents. Attaining the status of a secure "white zone," with the attendant government benefits, was in the people's best interest.<sup>11</sup>

**Counterinsurgent warfare.** Allied military forces and advisory teams, organized to support police forces and fight insurgents, can bolster security until indigenous security forces are competent to perform these tasks without allied assistance. In the U.S. Armed Forces, only the Special Forces (SF) are expressly organized and trained for counterinsurgent warfare and advising indigenous forces. During the 12-year-long Salvadoran Civil War, 25 SF field advisers and 30 staff advisers were the core of the effort that trained the 50,000-man Salvadoran Army that battled insurgents to a draw and forced them to accept a negotiated end to the war. In post-Taliban Afghanistan, SF detachments manage the operations of groups of hundreds of regular and para-military fighters. British and Australian Special Air Service regiments have similar creditable records because of long-term associations with the leaders and soldiers of the indigenous units they have trained.<sup>12</sup>

Constant patrolling by government forces establishes an official presence that enhances security and builds confidence in



the government. Patrolling is a basic tenet of policing, and in the last 100 years all successful counterinsurgencies have employed this fundamental security practice. Other more creative methods also have been used against insurgents, such as the infiltration of Mau Mau gangs in Kenya by British-trained "pseudo-gangs" posing as collaborators, a tactic also employed by the Filipino "Force X" against Huk guerrillas.<sup>13</sup>

**Securing borders.** Border crossings must be restricted to deny terrorist insurgents a sanctuary and to enhance national sovereignty. Police and military rapid-reaction units can respond to or spoil major insurgent attacks. Special-mission units can perform direct-action operations to rescue hostages, and select infantrymen can conduct raids. To seal off National Liberation Front bases in Tunisia, the French built a 320-kilometer-long barrier on the eastern Algerian border, and helicopter-borne infantry attacked guerrillas attempting to breach the barrier. The Morice Line completely stopped insurgent infiltration.<sup>14</sup>

**Executive authority.** Emergency conditions dictate that a government needs a single, fully empowered executive to direct and coordinate counterinsurgency efforts. Power-sharing among political bodies, while appropriate and necessary in peacetime, presents wartime vulnerabilities and gaps in coordination that insurgents can exploit. For example, one person—a civil servant with the rank of secretary of state—is responsible for all British Government political and military activity in Northern Ireland. In another example, in 1992, when Peru was on the verge of falling to the Shining Path insurgents, newly elected President Alberto Fujimori gave himself exceptional executive authority to fight terrorists. With overwhelming popular support, Fujimori unified the counterinsurgency effort and within 3 years wiped out the Maoists. In 1997, he crushed another violent insurgent group.<sup>15</sup>

The requirement for exceptional leadership during an internal war calls for a leader with dynamism and imagination. To ensure long-term success, this leader must remain in authority after the insurgency ends, while advisers continue to move the government and its agencies toward independence. Ramon Magsaysay, the civilian defense minister of the Philippines during the Hukbalahap insurrection, was renowned for his charisma, optimism, and persistence. His equally inspiring and energetic U.S. adviser, Major General Edward Lansdale, kept himself in the background throughout the war. Magsaysay's and Lansdale's personalities contributed as much to the success of the Filipino counterinsurgency as the programs they instituted. U.S. advisers James A. Van Fleet in Greece and Mark Hamilton in El Salvador likewise helped significantly in ending those countries' wars. In

**Operational Practices.** Failed counterinsurgencies reveal unsuccessful operational practices. The American intervention in Vietnam and the Soviet occupation of Afghanistan are examples of these malpractices. In the critical early periods of these wars, military staffs rather than civil governments guided operations, which were typified by large-unit sweeps that cleared but then abandoned communities and terrain. Emphasis was on killing and capturing enemy combatants rather than on engaging the population. <sup>18</sup> In particular, Americans and Soviets employed massive artillery and aerial firepower with the intent to defeat enemy forces by attriting them to a point of collapse, an objective which was never reached. <sup>19</sup>

Indigenous regular armies, although fighting in their own country and more numerous than foreign forces, were subordinate to them. Conventional forces trained indigenous units in their image—with historically poor results. Special operations forces committed most of their units to raids and reconnaissance missions, with successful but narrow results. The Americans further marginalized their Special Forces by economy-of-force assignments to sparsely populated hinterlands. Later, Spetznaziki roamed the Afghan mountains at will but with little effect.

In the Republic of Vietnam, the Saigon Government's leadership was unsettled. Leadership was unequally divided in the allied ranks between the U.S. Ambassador, the CIA Chief of Station, and the senior U.S. military commander. Impatience, masked as aggressiveness and "offensivemindedness," drove the Americans to apply counterinsurgency methods learned from conflicts in Greece and Malaya, but without taking into account the differences in the lands and people. The Americans also ignored the French experience in Indochina, particularly the general ineffectiveness of large-unit operations. Later, the Soviets did not consider the American experience in Vietnam when their occupation of Afghanistan became protracted. The Soviet command in Afghanistan was unified but wholly militarized, and the Afghan government they established was perfunctory. Afghanistan became protracted.

Disengagement from an unresolved counterinsurgency can doom an indigenous government. When the United States and the Soviet Union withdrew their forces from Vietnam and Afghanistan, the remaining indigenous governments were not vigorous or competent enough to maintain themselves without significant assistance. After the Soviet regime in



Moscow fell, the Taliban readily deposed the puppet government in Kabul. In Vietnam, the U.S. Congress sharply curtailed military aid after the withdrawal of U.S. forces. With no other source of support, South Vietnam was vulnerable to the invasion from the North that deposed its regime.<sup>25</sup>

Over time, the Americans improved their counterinsurgency practices in Vietnam, which resulted in viable combined and interagency efforts such as the Vietnamese-led Civil Operations and Revolutionary Development Support; the Vietnamese Civilian Irregular Defense Groups and Provisional Reconnaissance Units; the U.S. Marine Corps Combined Action Platoons; and U.S. military adviser training and employment. These practices, and other Vietnamese-directed programs, came too late to overcome the early "Americanization" of the counterinsurgency and its initially military-dominant strategy focused on enemy forces rather than the Vietnamese people and their government.<sup>26</sup>

It is still possible for Iraqi and coalition governments to adopt proven counterinsurgency practices and abandon schemes that have no record of success. Any campaign plan to prosecute the counterinsurgency in Iraq should be submitted to a test of historical feasibility in addition to customary methods of analysis.

#### **Notes**

- 1. GEN Earle W. Wheeler, speech at Fordham University, cited in Roger Hilsman, To Move a Nation (Garden City, NY: Doubleday & Co., 1967), 426.
- 2. U.S. President John Adams coined the term "hearts and minds" in his 1818 retrospective on the American Revolution.
- 3. Presidency of the Republic/Ministry of Defence, Politica de Defensa y Seguridad Democratica (Democratic security and defense policy) (Bogota: Ministry of Defence, 2003); Tom Marks, "Colombian Military Support for 'Democratic Security," conference paper, National Defense University, 7 January 2005. Marks earlier observed Bogotá's one-time detachment from the war in Colombian Army Adaptation to FARC Insurgency (Carlisle, PA: U.S. Army War College, Strategic Studies Institute, 2002). See also Jay Cope, La Guerra de Colombia: Hacia una Nueva Estrategia (The Colombian war: Toward a new strategy) (Washington, DC: National Defense University Press, 2002).
- 4. United Nations, "Universal Declaration of Human Rights," adopted and proclaimed by General Assembly Resolution 217 A (III), 10 December 1948.
- 5. See Malaya veteran BG Richard Clutterbuck's analysis, The Long Long War (New York: Praeger, 1965), and the classic study by Robert G.K. Thompson, Defeating Communist Insurgency: The Lessons of Malaya and Vietnam (New York: Praeger, 1966). Excellent secondary sources are Anthony Short, The Communist Insurrection in Malaya (New York: Crane, Russak & Co., Inc., 1975), and John Cloake, Templer: Tiger of Malaya (London: Harrap, 1985).
- 6. Bruce Hoffman, "Insurgency and Counterinsurgency in Iraq," Washington, D.C., RAND Corp., June 2004.
- 7. "The Urban Guerrilla," Time (19 September 1969); James Kohl and John Litt, Urban Guerrilla Warfare in Latin America (Cambridge, MA: The MIT Press, 1974).
- 8. The best study of these long-unresearched operations is Mark Moyar's Phoenix and the Birds of Prey (Annapolis, MD: Naval Institute Press, 1997).
- 9. High-ranking insurgent defector Lam Swee revealed these divisions in My Accusation (Kuala Lampur: 1951).
- 10. Huk War veteran Napoleon D. Valeriano and Charles T.R. Bohannan wrote Counter-Guerrilla Operations: The Philippine Experience (New York: Praeger, 1962) just after the rebellion was defeated.
- 11. The American cultural anthropologist Lucian Pye did his highly-regarded research in Malaya during the height of the Emergency. See Guerrilla Communism in Malaya (NJ: Princeton University Press, 1956).
- 12. For a historical survey of the British Special Air Service, see Tony Geraghty, Who Dares Wins: The Story of the Special Air Service, 1950-1980 (London: Arms and Armour Press, 1980).
- 13. On the Kenyan Emergency, see United Kingdom General Headquarters, East Africa, A Handbook on Anti-Mau Mau Operations (Nairobi: The Government Printer, 1954), and Randall W. Heather, "Intelligence and Counterinsurgency in Kenya, 1952-56," Intelligence and National Security 5, 3 (July 1990): 5-83. On the Hukbalahap Rebellion, see Uldarico S. Baclagon, Lessons from the Huk Campaign in the Philippines (Manila: M. Colcol, 1956).
- 14. Alistair Horne describes the Morice Line in detail in A Savage War of Peace: Algeria 1954-1962 (New York: Viking, 1977).
- 15. David Scott Palmer once shared a faculty office in Peru with Abimael Guzman, future leader of the Sendero Luminoso terrorists. See Palmer's "Fujipopulism and Peru's Progress," Current History 95 (February 1996); Sally Bowen, El expediente Fujimori: Perú y su presidente, 1990-2000 (The Fujimori file: Peru and its president, 1990-2000), Peru Monitor, Lima, 2000; Nancy C. Llach, "Fujimori and his actions are widely endorsed, but Peruvians ultimately want democracy," research memorandum, Office of Research, U.S. Information Agency, Washington, D.C., 1992; Charles D. Kenney, Fujimori's Coup and the Breakdown of Democracy in Latin America (IN: University of Notre Dame Press, 2004).
- 16. Edward G. Lansdale's In the Midst of Wars: An American's Mission to Southeast Asia (New York: Harper & Row, 1972) is illuminating, if self-serving, and not wholly credible. Lansdale was lionized as "Colonel Hillendale" by the pseudonymous William Lederer and Eugene Burdick in The Ugly American (New York: W.W. Norton Co., Inc., 1958).
- 17. In his autobiography (written with Clay Blair), GEN Omar Bradley lauded James A. Van Fleet for his performance in Greece. See A General's Life (New York: Simon & Schuster, 1983). See also Paul Braim, The Will to Win: The Life of General James A. Van Fleet (Annapolis, MD: Naval Institute Press, 2001). Then-commander of U.S. Southern Command, GEN George A. Joulwan, like Bradley, credited COL (later MG) Mark Hamilton for bringing the Salvadoran war to its end. Interview by author, 11 August 1999. Transcripts from the author's personal collection and from the unclassified transcripts of John A. Pitts, U.S. Southern Command, Commander in Chief, Oral Histories, Miami, Florida, 26 December 1991.
- 18. In La Guerre Revolutionnaire (Modern warfare: A French view of counterinsurgency) (New York: Praeger, 1961), French soldier-author Roger Trinquier advocated a no-holds-barred approach to combating insurgency, including the use of torture. GEN Jacques Massu, the military commander of Algiers during the insurrection, evinced the same views in La Vraie Bataille d'Alger (The real battle of Algiers) (Paris: Librairie Plon, 1971). Massu, Trinquier, and their ilk were glorified in Jean Lartéguy's novel The Centurions (London: Dutton, 1961). Using these methods, the French succeeded tactically, but failed strategically.
- 19. On Vietnam, compare former North Vietnamese Army Colonel Bui Tin, From Enemy to Friend, trans. Nguyen Ngoc Bich (Annapolis, MD: Naval Institute Press, 2002), and William C. Westmoreland, A Soldier Reports (Garden City, NY: Doubleday, 1976). On Afghanistan, see Mohammed Yousaf



and Mark Adkin, The Bear Trap: Afghanistan's Untold Story (Lahore, Pakistan: Jang, 1992). 20. Then-LT Colin Powell recounts his tour as an adviser in Vietnam in My American Journey (New York: Ballantine, 1996). The definitive study of U.S. "army-building" in this era is in Ronald H. Spector's Advice and Support: The Early Years of the U.S. Army in Vietnam 1941-1960 (New York: The Free Press, 1985).

- 21. Francis J. Kelly, Center for Military History Publication 90-23, U.S. Army Special Forces 1961-1971 (Washington, DC: Department of the Army, 1985).
- 22. Robert W. Komer, Bureaucracy Does Its Thing: Institutional Constraints on U.S.-GVN [Government of Vietnam] Performance in Vietnam (Santa Monica, CA: RAND, 1972).
- 23. The Pentagon Papers: The Defense Department History of United States Decisionmaking on Vietnam (Boston: Beacon Press, 1971).
- 24. The Russian General Staff, The Soviet-Afghan War: How a Superpower Fought and Lost, trans. and eds. Lester W. Grau and Michael Gress (Lawrence: University of Kansas Press, 2002).
- 25. The first and still arguably the best analysis of the U.S. Army's defeat in Indochina is Andrew F. Krepinevich, Jr., The Army and Vietnam (Baltimore, MD: The Johns Hopkins University Press, 1986).
- 26. William Colby with James McCargar, Lost Victory (Chicago: Contemporary Books, 1989); "The Johnson Administration and Pacification in Vietnam: The Robert Komer-William Leonhart Files, 1966-1968," Vietnam War Research Collections, Lyndon B. Johnson Library, Austin, Texas, University Publications of America, 1993. Vietnam veteran and scholar Lewis Sorley looks closely at the final years of conflict in A Better War: The Unexamined Victories and Final Tragedy of America's Last Years in Vietnam (New York: Harcourt, Inc., 1999).

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#### Canada's Global Role: A Strategic Assessment of its Military Power Colonel Joseph R. Nunez

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The comity between Canada and the United States is testimony to the strength of liberal peace. The Rush-Bagot Treaty of 1818 is still in effect and has been described as the "longest lasting and most successful disarmament treaty in international history." Canadians do not go to bed worrying if the United States is going to attack. We have become so interdependent that it is impossible to see our paths diverging to such a degree that our special relationship is jeopardized. Within the Americas, Canada is the democracy with which we have the most in common, whether it is history or kinship. In fact, Canada and the United States are an example of how values and interests can converge so pervasively that each side takes the other for granted, akin to a long-married couple. Nevertheless, important political differences are highlighted when administrations emerge from very different political viewpoints, as was the case between Prime Minister Jean Chretien and President George Bush. Moreover, Canada generally worships at the United Nations altar, whereas the United States is skeptical about the United Nations' ability to provide timely and sound handling of global problems. In truth, both positions are somewhat flawed, because one state is trying to use an international organization to magnify its modest power, while the other state is more eager to use its superpower status to disengage from slow UN deliberations to craft its own solutions to security threats.

A major cause of divergent views is the power imbalance between these two neighbors. On the whole, Canada is a middle-power—it possesses a great-power economy and a less-than-middle-power military. Its neighbor is a superpower. This comparative sense of weakness inspires some Canadians to complain of US hegemony. Yet this complaint often has more to do with cultural influence than with economic or political-military dominance. The Canadian economy continues to grow more vibrantly than its NAFTA partners on a per capita basis, and Canada is a major beneficiary of free trade—the United States is its number one trading partner.

The two countries also enjoy a long and institutionalized defense partnership, but it is not without its difficulties. The defense relationship has been strained for well over a decade, although the cracks in this partnership did not rise to public attention until the terrorist attacks of 11 September 2001. Bluntly stated, Ottawa tolerated a major decline in its military for years while it signed up for more UN peacekeeping missions than it could adequately manage. Washington was relatively quiet about this martial decline until homeland security rose as a national security priority, an imperative connected to the Global War on Terror.

Canada's Place in the World. Canada's current global conundrum is tied to its identity crisis. Formerly an important



player on the world stage, its influence is now greatly diminished. Critics are quick to point out that Canada spends little on its military, less than \$265 per capita, making it last among major North Atlantic Treaty Organization (NATO) members.<sup>3</sup> On a Gross National Product (GNP) basis, Canada spends just 1.1 percent on defense, putting it on par with Liechtenstein.<sup>4</sup> One senior Canadian officer described his country's challenge to overcome its geostrategic handicap as, "We are a regional power without a region."<sup>5</sup> Ottawa still possesses a measure of global clout through its dynamic economy. Choices it makes early in the 21st century will have a major impact on its ability to halt this decline, especially in defense, and to rebuild its strength and stature within the international system. It is fair to say that Canada is reassessing its future defense direction, scaling back on traditional peacekeeping commitments, increasing its role in peace enforcement operations, and taking a new look at its security relationship with the United States. Canadians see themselves as global peacekeepers, and this is reinforced in the Canadian press, vividly displayed on their currency, and echoed in conversations on the street. But the reality is different from the perception.

Using United Nations peacekeeping operations statistics, the Canadian contribution to UN missions is now rather small. Of 92 countries furnishing forces, Canada ranks 34th, placing it in the middle third. With just 239 service members deployed, Canada pales in comparison to, say, Pakistan with 5,252 on UN missions. Even within the Americas, Canada is not the largest contributor. Uruguay, Argentina, and the United States provide more peacekeeping personnel.<sup>6</sup>

Over the last 15 years, Ottawa has developed a greater hemispheric orientation, a huge departure from its traditional Euro-centric focus. This change began after World War II, as Canada moved from the British sphere to a North American commitment. A key challenge for Canada is deciding between two roles—continuing to support a multitude of UN missions or asserting greater interest in a regional approach to peacekeeping and other operations through hemispheric cooperation. Part of the soul-searching is due to demonstrated difficulties in mustering adequate forces with proper equipment, not to mention deployment and sustainment. Experts such as Joseph Jockel argue that the country faces hard choices because Canada's peacekeeping orientation has led to a significant degradation of its combat capability, particularly its ability to sustain military operations at brigade level. This UN peacekeeping orientation began long ago with Canada's involvement in the Suez Crisis. In his book, Canada's Army: Waging the War and Keeping the Peace, author J. L. Granatstein explains the change in military focus:

At the United Nations on November 1 [1956], Lester Pearson, the Secretary of State for External Affairs, proposed that the Secretary-General "begin to make arrangements with Member Governments for a United Nations force large enough to keep these borders at peace while a political settlement is being worked out. . . . My own government would be glad to recommend Canadian participation in such a United Nations force." This idea and Pearson's subsequent role in creating the United Nations Emergency Force (UNEF) won him the 1957 Nobel Peace Prize. . . . The crisis affected the army in other ways as well. First, Pearson's Nobel Prize made Canadians into the world's leading believers in peacekeeping. Every world crisis after 1956 saw Canadians demanding their troops bring peace to the world. <sup>10</sup>

The logic of a diminished Canadian military is easy to grasp. Internationally, Canada enjoys the security umbrella afforded by the United States. Thus, it acts as a free rider and can fund its defense on the cheap. Monies not devoted to defense are used to pay for domestic programs. Probably no single document illustrates this policy better than the "Speech from the Throne" given on 30 September 2002, outlining then-Prime Minister Chretien's vision for Canada. The international dimension of the speech is less than ten percent of the text. Moreover, it raises more questions than it answers. There is a pledge "to work with its allies to ensure the safety and security of Canadians" and "to work through organizations such as the United Nations to ensure that the rule of international law is respected and enforced." It vaguely states that Canada "will work with the United States to address our shared security needs." Finally, there is a brief allusion to the military:

In the face of rapid change and uncertainty, the government must engage Canadians in a discussion about the role that Canada will play in the world. Before the end of this mandate, the government will set out a long-term direction on international and defence policy that reflects our values and interests and ensures that Canada's military is equipped to fulfill the demands placed upon it.<sup>13</sup>

**Canadian Defense after World War II**. Canada long defended itself with militias, not standing armies. It was not until after World War II that Canada made a strong commitment to a full-time force. Even so, the government was vague and tentative in its support for the end-strength originally planned, resulting in an army that was half of what was promised, and great uncertainty over defense requirements. <sup>14</sup> A major part of that uncertainty revolved around its ascending ally, the



United States.

As the Cold War emerged, Canada and the United States became partners in defense, but did not institutionalize this partnership until 1957 with the creation of the North American Aerospace Defense Command (NORAD). This idea of working together to defend the North American continent dates back to 1940 when the two executives, Prime Minister Mackenzie King and President Franklin Roosevelt, met in Ogdensburg, New York, to discuss the war and common defense challenges. A binational command, NORAD was established in 1958 and headquartered in Colorado Springs, Colorado, where it still is today. The command's original mission was to provide "operational control of continental air defenses against the threat of Soviet bombers." <sup>15</sup>

The practical effect of the NORAD agreement was that it helped justify the modernization of a Canadian Air Force. It did little to bolster the Canadian Army. The North Atlantic Treaty Organization, founded in 1949, was more beneficial to Canada's ground forces. Though obviously more focused on Europe than North America, NATO provided a reason for Canada to raise and maintain combat brigades. The Canadian Army's mettle, and Canada's military as a whole, were tested and validated with their participation in the Korean War, a conflict supported by the United Nations. <sup>16</sup>

The mid-1950s, however, marked the apex for Canada's military strength. After that, two factors served to reduce the nation's combat capability. The first was Ottawa's peacekeeping orientation, and the second was the diminishing fear of a Soviet attack. In 1968 Pierre Trudeau ascended as the new Liberal Party Prime Minister to further change the military. Under his leadership, Canada reduced its forces in Europe (under NATO) by half. Additionally, peacekeeping declined in priority. During this period Canada's navy lost its only aircraft carrier, its army said goodbye to a number of proud regiments, and its air force was forced to wait another decade to receive new aircraft.

Canadian forces did not fare much better under Conservative Party leadership, however. The need to cut budget deficits, coupled with the end of the Cold War, meant that additional support was not forthcoming, and cutbacks became the order of the day. Further damaging Canada's military reputation in NATO was the realization that because of declining airlift and sealift capabilities, Canada could not deploy a brigade with sufficient speed. One Canadian historian refers to the period after 1968 as "professionalism under siege." The major criticism resounding among various experts on Canadian military history is that strategically the country traded ends for image, choosing form over substance. It was more important to have a presence than to materially shape the outcome. During this same period, Canada jumped into every UN peacekeeping operation and maintained its involvement in NATO and NORAD, albeit with reduced forces and rapidly declining equipment, logistics, and strategic lift, not to mention morale.

In the post-Cold War global environment of growing nationalism and failed states, the 1990s reflected a growing demand for peacekeepers and peacemakers. For Canada's shrinking military, it was a means to an end— survival. But significant costs arose from this emphasis on peacekeeping. The military leadership disliked peacekeeping duty because it reduced unit combat effectiveness. Peacekeeping was antithetical to maintaining the fighting ability of soldiers because they rarely performed combat tasks. Another problem was that many missions lasted indefinitely, depriving the military of soldiers needed to maintain units at home. Additionally, the increasing number of missions, coupled with a smaller military, meant that many peacekeepers would return from one mission and then soon deploy on another. If you add the declining level of support to these soldiers, it is easy to see how morale declined precipitously. Finally, while Canada perceived itself to be the "world's moral superpower," performing good works, making peace, and advancing human security, this was a hollow reality.<sup>21</sup>

Canada's Security and Defense Posture in the 21st Century. A growing number of Canadians see their country in positive domestic and negative international terms. The economy has been healthy for many years, affording Canadians a high quality of life and a comprehensive social welfare system. But beyond the borders the picture is very different, as Andrew Cohen explains:

The truth is that Canada is in decline in the world today. It is not doing what it once did, or as much as it once did, or enjoying the success it once did. By three principal measures—the power of its military, the generosity of its foreign aid, the quality of its foreign service—it is less effective than a generation ago. . . . To argue that Canada has abandoned or diluted its traditional roles in the world isn't terribly new. The argument has been made in different ways different times. It is just that now—with the country's leadership in play, the war on terrorism in train, and the military in eclipse—the sense of loss has become more acute, gathering a momentum of its own. 22



Clearly, the events of 2001 changed Canada's views about North American security. They also challenged assumptions about Ottawa's place in the world, and the nature of its political, economic, and military relationship with Washington. Canadian concern grew over the development of a new security architecture for North America. But it should surprise no one that Canadians are favorably oriented toward increased security cooperation. NORAD provides a working framework for such cooperation. Historically, Washington and Ottawa worked closely during World War I and II—in fact, Canada jumped into the fight before the United States, and it was Ottawa that persistently encouraged Washington to join the war. This cooperation produced a strong defense partnership. The two countries are the only Western Hemisphere members of NATO.

Most Canadians see the US initiative to create Northern Command through the dilemma that journalist Jim Travers describes as the choice to "share defense or be tossed aside." Borrowing an analogy from classical literature, Travers describes Canada's security challenge:

Shocked awake by Sept. 11, Washington, or Gulliver, is not about to be constrained by the petty concerns of the Lilliputians. Canada is the most exposed of the Lilliputians. Perched precariously along the great undefended cliché and historically committed to securing America's back door, [Canada] faces an unambiguous imperative: It can share responsibility for continental defense or it can be tossed aside as Gulliver stirs.<sup>24</sup>

Reflected in these choices are concerns about the adequacy of Ottawa's military, the uneasiness of living next to a superpower, and concern that Canada might be abandoned if it does not pull its share of the continental security mission. Others see difficult scenarios. Douglas Bland believes that terror attacks on the United States changed the important relationship between the two countries. Critical to this change is the huge impact that would result from Canada not doing its part to cooperate in preventing terrorism from penetrating the United States from the north. Bland asserts that "Canada faces no greater foreign and defense policy challenge than finding an appropriate and credible way to reassure the United States that Canada can live up to the 1938 Roosevelt-Mackenzie King agreement that no attack on the United States could come through Canadian territory."

The good news is that Ottawa is moving more toward Washington on security and defense matters, while still raising concerns about sovereignty and consultation. Canada has taken significant steps to improve border security in recognition of the need "to safeguard the Canadian and American homeland." And Michael Kergin, Canada's Ambassador to the United States, has remarked, "Like many countries in the world today, the United States is Canada's primary foreign policy concern . . . without the United States, Canada is pretty isolated." Canadian and US interests have much more in common— trade, rule of law, and democracy—than any differences that exist, so it is wise to join as partners in the war against terrorism. But the state of the safe is the safe is

John Manley, former Deputy Prime Minister, has argued along the same lines. A complex set of intersecting issues—border reform, transportation, law enforcement, financial and immigration issues, and security cooperation—challenge Canadians to make what Manley calls "clear and conscious choices as a nation . . . what we value, what we will seek, what we must defend—and, ultimately what we are willing to do in order to achieve these." Acknowledging that sovereignty is an important Canadian concern, he argues that it "is fundamentally about making choices, and about acting responsibly in the national interest so that we are able to preserve that field of choice for ourselves . . . [S]overeignty must be dynamic—or else our country cannot be." Thus, if Canada wants to preserve its favorable situation as the number one trading partner of the United States, it must get beyond the shrill rhetoric about "American imperialism," something present in academic circles and the media. Manley recognizes that Ottawa can better preserve sovereignty by constructively engaging Washington to address bilateral responsibilities as well as benefits—that there is no free lunch. He argues, "Much of the almost 135-year history of our nation has been about how we establish and exercise our sovereignty within a shared North American space—almost always accompanied by ritual fear and anxiety over how a greater North America might mean a diminished Canada."

Until recently, Canada was known for peacekeeping and little else since World War II, though it did see combat in the Korean War, and some troops experienced brief combat engagements during peacekeeping operations in Kosovo and Croatia. This changed significantly with Canada's 2001 deployment to Afghanistan. Canadian forces fought well with US forces against al Qaeda fighters. Even before Canadian soldiers entered the fray, they were well regarded by American commanders. The US commander in this particular instance, Colonel Frank Wiercinski, told reporters that because the



Canadian soldiers were well trained, they would be integrated fully into his task force. Wiercinski stated, "We want to bring capability that we both can put together, and by using the best of each. And I think we've done that. They bring capability, not liability, to this fight."

Canadian military ability was verified on 14 March 2002, when their forces engaged in fierce combat during Operation Anaconda. The Canadian-American offensive demonstrated the resolve and abilities of both countries. It was also a historic event, because it had been almost 50 years, dating back to the Korean War, since a Canadian military force had participated in a ground offensive.<sup>34</sup> The Canadian performance obviously impressed US military commanders, because the Princess Patricia Canadian Light Infantry (3 PPCLI) subsequently was placed in charge of Operation Harpoon, a mission to flush enemy fighters from mountainous caves.<sup>35</sup>

While there is no question that Canadian soldiers are of high quality and add real value to any operation, there are many concerns about the quality of their equipment, logistical support, air and sealift, and their ability to conduct operations above the battalion level. These concerns, though often raised by allies such as the United States, ring truer when voiced by Canadian officers. Afghanistan is a perfect example. The deployment of the 3 PPCLI was a difficult and frustrating process. Once in Afghanistan, the commander requested a third rifle company to make the unit fully functional and interoperable. Peacekeeping experiences from the 1990s actually constrained the unit to the point of embarrassment, and the 3 PPCLI was forced to quickly change to more robust rules of engagement. When reflecting on the quality of provisioning afforded to his soldiers, and comparing it to how the Americans were supported, the Canadian commander stated that his unit felt like "sorry second cousins."

On the positive side, the 3 PPCLI brought unique capabilities that contributed to mission success. For example, the Canadian armored reconnaissance vehicles, called Coyotes, afforded mobility and protection, while their .50-caliber sniper rifles added accurate long-range effect. The commander stated that the combining of different cultures actually served to create a force multiplier. The two units learned from each other, and brought unique experiences and expertise that benefited all. In short, the sum was truly greater than the parts. For example, the Canadian troops were experts at cold-weather operations and very skilled in their ability to influence community attitudes in the local villages. On the other hand, the Americans afforded the 3 PPCLI an opportunity to participate in the first combat air assault in Canadian history, and provided a good deal of logistical support for common classes of supply. Canadian soldiers and their commanders understand that in more cases than not, they will be joining instead of leading campaigns. That mindset alone is valuable for combined or multinational operations. In the first deployment to Afghanistan, the Canadians furnished a battle group that was integrated within an American brigade.

The United States expected 3 PPCLI to remain longer in Afghanistan, but Canada pulled the unit back after six months. Another disappointment was Canada's refusal to join the "coalition of the willing" for the invasion of Iraq in 2003. Ottawa was troubled that Washington did not receive UN Security Council support for its decision to go to war against Baghdad, even though it agreed with the Bush Administration that there was justification to end the regime of Saddam Hussein. In the end, Ottawa mended fences with Washington by returning to Afghanistan in 2003 with 2,000 troops and provided the commanding general of the operation.<sup>39</sup>

**Political and Military Soul-Searching.** The 21st century has not been internationally kind to Canada so far, save for trade. Diplomacy and defense have been in decline for a number of years. Since 2001, Canada has been forced to reconsider its relationship with the United States, its place in North America, in the Americas, and in the world. The Liberal Party, in power for the vast majority of the past four decades, is very popular in Canada because of its success in running the economy and providing an extensive social security network. It is not a favorite of the military, though officers are not likely to complain because of their strong ethos of subordination to civilian democratic authority. But there is little doubt that they feel betrayed by their political masters. This is evident in official military documents. When reflecting on the state of the land forces, the army's strategy report stated:

Physical infrastructure is poor and deteriorating in some areas. The Army is facing significant shortfalls in firepower (both direct and indirect) and Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR) capabilities. On the personnel side, the burden of incremental taskings imposed by cuts, establishments, additions (announced in *The 1994 White Paper*) and a continual high personnel tempo are taking too great a toll on many soldiers. There has been an excessive draw on our pool of Reservists to compensate for gaps in the Regular Force structure. Command and control (C2) is stretched due to staff cuts and heavy demands of new



strategic initiatives. Collective training opportunities are inadequate to maintain formation-level combat capability, and we are experiencing serious skill fade in some areas. Finally, there is concern over the morale of the Army. There is a sense of uncertainty and, not insignificantly, a sense of mistrust of the senior leadership caused by constant change. A lack of unity in thought, purpose, and action is too often apparent.<sup>40</sup>

Canadian forces underwent significant transformation over the last decade, but it was neither by design nor positive. Units have been withdrawn from Europe. They have been forced to deploy on a multitude of difficult missions under declining budgets. Much of their equipment is outdated, ragged, shabby, or simply not available. Units have been mothballed, never to return, but requirements are on the rise. The military is suffering from "cultural upheaval."

The quality and size of the forces that a country can muster and deploy on global missions have a huge impact on its international standing. Trade is also an important measure of a country's place in the world, of course, but military force and trade are related, particularly given Canada's interdependency with the United States on security and exports. Now that trade is in danger. For years there seemed to be no domestic price to pay for letting the military fade, while perpetuating the myth of Canada as the great peacekeeper. But in the age of terror, Ottawa has good reason to change its course regarding military support.<sup>43</sup>

Canada used to take pride for being able to "punch above its weight." Now it punches below its weight, causing many businessmen to fear for the future. <sup>44</sup> While the United States and Canada are both liberal democracies, enduring allies, strong trading partners, and culturally related, the security threats of this new age place additional burdens on the liberal community of states to stand and fight against non-state actors—sometimes aided by rogue and failing states—that employ terror, transnational crime, and globalized communications to threaten democracies. Ottawa can no longer offer glittering platitudes and then duck out when the global work must be done and the bills come due. <sup>45</sup> It may be a cliché, but freedom is not free, and neither is trade, at least not the generation or maintenance of it. To keep a global economic system functioning, democratic states must be willing to deter and defeat forces that threaten their way of life. Canadians are beginning to understand that they are way overdue in their payments, and must rapidly recapitalize defense assets to meet the burgeoning demands of today and tomorrow.

There is also a realization that Canada can no longer depend on NATO or the UN to advance Canadian values or provide a "soft balance" against its powerful and assertive neighbor. Like it or not, Canada has cast its future with the United States. Yet, while Ottawa may first consider the Washington perspective, that does not imply subservience to its superpower neighbor. Canada can (and does) say no (or yes) when that is warranted in terms of Canadian values and interests. The Iraq war of 2003 is a good example of this, and so is the Afghanistan stabilization mission. Canada made a strong contribution to the international effort in Afghanistan because it was a US initiative that was given multilateral legitimacy by NATO and the UN. Already, Canada is exhorting its NATO partners to take on a greater role in furnishing troops, and this is in no small part due to the fact that Ottawa is straining to maintain its commitment over time. 47

Another important part of this political-military soul-searching is homeland and hemispheric security cooperation, and the two are related. As Canada reduced its commitment to Europe, it increased its commitment to North America and the Western Hemisphere. Since the early 1990s, Ottawa has sought greater engagement, trying to make up for lost time when it saw itself more as an extension of Europe. The creation of NAFTA in 1994 set a course that forced Canada to expand its strategic focus on North America. Where NORAD and other agreements provided a cooperative-defense mind-set, the free trade agreement cemented the strategic orientation, and this is largely due to the fact that Canada, above all else, is a trading nation. Its vibrant economy depends upon the large export sector.

Security scholars are increasingly focused on the concept of "trilateral security." Concepts like security perimeter, security community, and continental security are now common terms in government, academia, and policy institutes. While these are still largely ideas, rather than implemented, they are discussed in terms that are moving deliberately in that direction. The military cooperation piece is particularly noteworthy. Canada's membership in hemispheric forums includes the Defense Ministerials of the Americas (DMA), the Inter-American Naval Conference (IANC), the Conference of the Armies of the Americas (CAA), the System for Co-operation Among the Air Forces of the Americas (SICOFAA), and the hemispheric-wide reporting on Confidence and Security Building Measures (CSBMs).

In the fall of 2003, Canada hosted the 25th Commanders Conference of the CAA. This provided an opportunity to foster continued integration, increase the exchange of defense-related information, expand collaboration among American



armies, create unity, strengthen inter-American friendships, and demonstrate Canadian leadership within the Americas.<sup>54</sup> Lieutenant General Rick Hillier, CAA President and Canadian Army Commander, emphasized the need to work together because "no one country alone can meet all the challenges in providing that basic security," which he argued was the mutually reinforcing relationship between human security and the security of the state.<sup>55</sup>

In the summer of 2002, Canada joined the Inter-American Defense Board (IADB). This is an international defense and security organization that promotes cooperative security interests in the Western Hemisphere and operates under the authority of the Organization of American States (OAS). In the short time it has been a member, Canada has demonstrated its leadership value through the actions of its senior member on the IADB, Rear Admiral lan Mack. This expansion within the Americas is consistent with Canadian values and interests. Since the 1980s Canada has participated in a number of peacekeeping and humanitarian assistance missions. At the same time, Canada's trade within the Americas has grown at a rapid rate.

The creation of US Northern Command in 2002 prompted Ottawa to study the possibility of greater military cooperation. Given that the command's area of responsibility includes Canada, the United States, and Mexico—the members of NAFTA—it was logical to find a way to engage constructively. The Binational Planning Group serves this purpose. It provides Canada a bridge from NORAD to NORTHCOM. In typical Canadian fashion, the process is slow, methodical, and concerned about the preservation of sovereignty. Despite this largely bureaucratic obstacle to increased security cooperation, however, the actions of assigned officers have been positive and reflect a high level of mutual respect, innovation, and professionalism.<sup>57</sup> In particular, one area of homeland defense directly benefitting from this collaboration is naval cooperation between Canada and the United States, which bolstered the security of both countries' coastlines and ports. Given their nature and manner of deployment, along with their mutual reinforcing actions that have enhanced interoperability, the two nations' sea services are more disposed toward cooperation; thus, it is a good model for the two armies to emulate.<sup>58</sup>

The Way Ahead: Challenges and Opportunities. The Canada that Prime Minister Paul Martin now leads is moving further away from the United States culturally, and that has significant implications for economic, political, and military cooperation. Ottawa is at an important crossroads that will determine its future direction in this new century. There has always been latent anti-Americanism in Canada. Historical differences—loyal colonials versus revolutionaries—and asymmetries of power underscore elements of distrust and dislike that are ever-present to one degree or another. That is not to say that the relations between these two neighbors are rocky. In fact, since 11 September 2001 Canada has cooperated very closely with the United States to improve border controls, share intelligence, and track down terrorists.

A huge challenge for Prime Minister Martin is to find a path midway between shrill defiance and fawning lockstep accommodation of the United States. Thumbing your nose at Uncle Sam, aside from poisoning relations, also serves to fan the flames of anti-Americanism, and this damages Ottawa's long-term interests. Rolling over for Washington makes Canada look weak and either unable to set its own course or unwilling to offer an alternative. On top of this, Canada should refrain from the temptation to act as the moral superior in the partnership, taking the "role of provider of wise counsel." Such a haughty position is unwarranted, particularly considering Canadian words versus deeds. If it is necessary to advise, do it privately. Remembering Canada's positive influence on the US entry in World Wars I and II, and Canada's willingness to make large commitments to back its moral position, should serve as constructive examples of how it can best influence US behavior.

If the business view of government is negative, it is much worse when it comes to diplomacy and the military, key components of foreign policy. Prime Minister Chretien's Achilles' heel was foreign policy. Canadian influence around the world declined during his tenure, and that is not just an American view.<sup>64</sup> More than an infusion of funds, many institutions require new leadership and strategies. And this leadership and strategic vision must come from the top.

There is little doubt that Paul Martin can lead Canada in a new direction within North America, the Western Hemisphere, and the world. His remarks, even before he assumed the leadership mantle, indicate that he clearly understands his environment and that major foreign policy change is afoot:

Our bilateral relations must be conducted on a far more sophisticated basis. Our goal must be to keep our two nations open to each other. . . . The absence of consensus in the U.N. should not condemn us to inaction. Multilateralism, after all, is a means not an end. <sup>65</sup>



One of Martin's most daunting challenges is to navigate his way through the government's bureaucratic maze to develop and implement a national security strategy. Canada's foreign policy has remained basically unchanged for nearly a decade. The government's last foreign policy white paper was published in 1995 and the last defense policy review in 1994. Even in tandem, these do not constitute a grand strategy. Aside from now being grossly out of date, these documents did little to link political, economic, and military elements of power in support of Canadian values and interests.

Outside observers often are puzzled as to why Canada does not have a national security strategy or an interagency process to coherently support its implementation. A close look at domestic and international factors provides some answers. As a country, Canada's internal stability depends upon keeping its various provinces—particularly Quebec—happy, and that is no easy task. There is no unitary political culture, and Alberta and Quebec are polar opposites on the political spectrum. Given these major cleavages, it is risky to articulate a national security strategy because many Canadians are likely to object. Furthermore, setting a strategic course entails costs. The national budget must apply resources to support strategic ends, such as providing for a strong military to prevent war and promote peace. And if more dollars go toward defense, then popular domestic programs might suffer cuts.

The international reasons for refraining from delineating a national security strategy are also significant. Canada is not an independent actor in the international state system. Thus, any strategy must acknowledge that Ottawa does not control its own destiny, whether it is the defense of the country or the deployment of force to promote its human security agenda. Defense of the Canadian homeland is dependent upon major US assistance. Canadian heralding of multilateralism is more than high-minded liberal internationalism; it is also a practical means of executing thrifty globalism. If this illusion of complete sovereignty and robust international action is credible, it allows Canada to focus on domestic priorities while still promoting international trade. It is also a safe agenda. Since the Canadian military cannot be deployed or employed independently and in significant numbers around the world, it keeps the government from taking decisive action that might be unpopular at home or in other countries. In fact, this is an insurance policy against making a bad call on unilateral intervention. From the waning years of the Cold War until 2001, this approach worked for Ottawa, even if it was writing defense checks that it knew were going to bounce, eventually.

Prime Minister Martin is more strategically oriented than his predecessor. Just looking at defense, there are many good signs. His choice of David Pratt to serve as Defence Minister was a bold move for several reasons. Pratt bucked the conventional Liberal view by supporting Canadian intervention— with the United States—in Iraq. He has always supported the military, whether with regard to funding, new equipment, morale, or training. Finally, Pratt is a strategic thinker who has some interesting ideas on security cooperation with the United States. Unfortunately, Pratt lost his seat in Parliament in the June 2004 election, and thus must step down as Defence Minister. One hopes the Prime Minister will select a like-minded replacement.

After his election as Prime Minister, Martin's first visit was to the Department of National Defence (DND), sending a strong message of support. The impact was particularly significant since Prime Minister Chretien had declined to visit the DND during his decade of leadership. Martin thanked the men and women in uniform for their work at home and overseas, and then went on to address the challenges of the new century:

With the end of the Cold War has come a different kind of international conflict, a different kind of trauma. No nation can isolate itself from the perils and trials, the tribulations that the world goes through. Our capacity as a nation to respond on behalf of the world community is very heavily dependent upon the men and women of our armed services.<sup>69</sup>

One officer at Martin's speech stated hopefully, "We want to believe him; we want to believe that he does realize that in order to achieve a lot of his goals, such as putting Canada back on the world stage, . . . he can't do it with the state of the military he has now."

If actions speak louder than words, then Martin is sending a strong message to the military. After his speech, he followed up by approving Pratt's urgent request to immediately fund new helicopters to replace the aging Sea Kings, despite a freeze in new federal spending.<sup>71</sup> Further bolstering Martin's position as a leader for positive change were initiatives to reform the structure of government to provide for greater domestic security and to improve relations with the United States.<sup>72</sup> To achieve strategic ends he is readdressing the means, by refocusing on structure and resources; soon the

policies will follow that provide the ways. The biggest challenge is to provide enough resources to bolster the military. For example, the new helicopters will not begin to appear for another four or five years. What is worse is that calculations of equipment life-cycles did not take into consideration the toll that frequent and difficult operations, like Afghanistan, have exacted on materiel.<sup>73</sup>

**Conclusions.** Canada has an important role to play in North America, the Americas, and the world. The nexus of trade and security imperatives place it firmly within North America. The Canadian role in the Americas is growing in terms of economic and defense matters. Globally, Canada is challenged to regain its stature as a country that is willing and able to punch above its weight. Key to this is the regeneration of the Canadian forces, who have been asked to do too many missions with too few resources for far too long.

Whether Canadians like it or not, Canada's political, economic, and military power is in no small measure dependent upon the United States. As liberal states, interdependent neighbors, and allies, the two nations share a relationship that is positive overall. Canadians enjoy a high standard of living because they are an industrious people and thrive on their many exports to the United States, which remains their largest trading partner. Moreover, potential enemies are deterred from attacking Canada because its superpower neighbor would not stand for that. Canada has 11 percent of the population of the United States, yet it has a military only about 3.75 percent the size of its neighbor's. In budgetary terms, Ottawa spends 2.6 percent of what Washington spends on defense. Canada has neglected its military for a long time because of the impressive security umbrella afforded by the United States, but this cannot continue given the terrorist challenges that threaten established democracies.

Even before 2001, Canada was out of synch in its global vision. Ottawa's peacekeeping orientation was no match for failed states and terrorism. While soft power may be an effective foreign policy approach in this millennium, it is largely ineffective without significant hard power to back it up. And the truth is that today Canada has little hard power. A country that cannot muster and deploy even one self-sufficient brigade to global hot spots is not going to be taken very seriously, and is certainly not a middle power by military measure. The upshot of this is that Canadian concerns about sovereignty over their US relationship require serious reevaluation. The ironic verity is that Ottawa can increase its sovereignty only by working more closely with Washington. This is not to say that it should march exactly to the Pentagon's tune. The most effective strategy is to cooperate when cooperation aligns with Canadian values and interests. This also requires a great deal of diplomacy, especially since Washington tends to take Ottawa for granted. When Ottawa must disagree, it should quickly make its case with Washington, but in a discreet manner. It also would be helpful if Canada would produce a national security strategy that clearly articulates what the nation wishes to achieve internationally, and which provides the plans and resources to achieve it.<sup>75</sup> The new leadership appears to be moving in this direction.

In concrete terms, it is certainly wise for Canada to further institutionalize its partnership with the United States in defense of North America. Joining Northern Command would accomplish this, particularly since NORAD is decreasing in importance. Of course, Ottawa should insist on a sovereignty clause, a guarantee that Canadian troops will not be deployed on any mission without the express approval of the Canadian government. Formally joining Northern Command, just as Canada did with NORAD, would confirm that the relationship between Canada and the United States is a model of liberal interdependency suitable for emulation. Democracy, capitalism, and security cooperation can keep the neighboring states strong and successful allies. Ottawa clearly benefits by working closer in defense matters with Washington—it can gain significant improvements in training, lift, logistics, and technology, not to mention respect. These benefits will enable the country to quickly deploy a well-trained and equipped military force to global hot spots and sustain them properly. Additionally, such cooperation demonstrates that Canada can provide valuable leadership in the Americas. But Ottawa should understand that Washington needs competent allies—ones that possess a modicum of hard power.

#### Notes

- 1. Graham Evans and Jeffrey Newnham, *Dictionary of International Relations* (New York: Penguin, 1998), pp. 483-84. For an excellent discussion of this interdependency (before NAFTA) see Robert Keohane and Joseph Nye, *Power and Interdependence* (New York: Harper Collins, 1989), pp. 18-19, 165-218
- 2. Peter Kasurak and Nicholas Swales, "Reforming the Department of National Defence: A View from the Audit Office," *Canadian Defence Quarterly*, 27 (Spring 1998), 23-29. See also Warren Caragata, "Out of Timor," *Maclean's*, 20 March 2000, pp. 26-28; and Steven Pearlstein, "Peacekeepers; Military Budget Puts Constraints on Canadians," *The Washington Post*, 26 September 1999, p. A25.
- 3. "Our Weak Friends," The American Enterprise, December 2002, p. 11.
- 4. Allen Fotheringham, "My 2003 Predictions," Maclean's, 23 December 2002, p. 41.
- 5. Comment made by a senior Canadian officer to the author in Carlisle, Pa., 5 February 2002.



- 6. Monthly Summary of Contributions, United Nations Department of Peacekeeping Operations, as of 31 October 2003, http://www.un.org.
- 7. Paul Buteux, "Canada's Long-Term Strategic Situation: Implications for Canadian International Security Policies," in *Natural Allies? Canadian and Mexican Perspectives on International Security*, ed. H. P. Klepak (Ottawa: Carleton Univ. Press, 1996), pp. 57-80.
- 8. Canada, Department of National Defence, 1994 Defence White Paper (Ottawa: Canada Communication Group, 1994). This document reflects the difficulty that Canada faces as a mainstay for the UN—too many missions and not enough funding to support them. See also Department of National Defence, Strategic Overview 2000 (Ottawa: Directorate of Strategic Analysis, 2000); and David G. Haglund, Canadian Grand Strategy at Century's End (Toronto: Irwin Publishing, 2000).
- 9. Joseph T. Jockel, The Canadian Forces: Hard Choices, Soft Power (Toronto: Canadian Institute of Strategic Studies, 1999), pp. 113-28.
- 10. J. L. Granatstein, Canada's Army: Waging the War and Keeping the Peace (Toronto: Univ. of Toronto Press, 2002), pp. 345, 347.
- 11. Prime Minister Jean Chretien (delivered by Governor-General Adrienne Clarkson), "The Canada We Want: Speech from the Throne," Second Session of the Thirty-Seventh Parliament of Canada," 30 September 2002. See also Tonda MacCharles, "From Red Book to Blue Box: Other Parties See Only Recycled Promises," Toronto Star, 1 October 2002, p. A9. Opposition parties slammed Chretien for not strengthening defense.
- 12. Ibid.
- 13. Ibid.
- 14. Granatstein, pp. 310-16.
- 15. Fact Sheet, North American Aerospace Defense Command Agreement, http://www.norad.mil/NoradAgreement.htm.
- 16. Granatstein, pp. 320-42.
- 17. Desmond Morton, Understanding Canadian Defence (Toronto: Penguin/McGill Institute, 2003), pp. 79-80.
- 18. Ibid., p. 80.
- 19. Desmond Morton, A Military History of Canada (Toronto: McClelland & Stewart, 1999), pp. 263-69.
- 20. Granatstein, p. 359.
- 21. Ibid., pp. 391-99.
- 22. Andrew Cohen, While Canada Slept: How We Lost Our Place in the World (Toronto: McClelland & Stewart, 2003), pp. 22-23.
- 23. Jim Travers, "Share Defence or be Tossed Aside," Toronto Star, 26 February 2002, p. A23.
- Ibid.
- 25. Douglas Bland, "Canada and Military Coalitions: Where, How and with Whom?" Policy Matters, 3 (February 2002), 26-27.
- 26. Michael Kergin, "Canada and the United States: Facing a New World Reality—Together," speech presented to the Greater Miami Chamber of Commerce, 6 February 2002. Michael Kergin is the Canadian Ambassador to the United States.
- 27. Ibid.
- 28. Ibid.
- 29. John Manley, "Address by the Honourable John Manley, Deputy Prime Minister of Canada and Minister of Infrastructure and Crown Corporations, to the Canadian Club," 11 February 2002.
- 30. Ibid.
- 31. For a critical assessment of the Canadian-American relationship, see Stephen Clarkson, "Lockstep in the Continental Ranks: Redrawing the American Perimeter after September 11th," *Canadian Center for Policy Alternatives*, February 2002. See also James Laxer, "Surviving American Imperialism," *Toronto Star*, 17 February 2002, p. A13; and Paul Hellyer, "The Americans Will Dictate Our Military Roles," *Globe and Mail*, 7 February 2002, p. A11. For a more balanced view, finding fault with Ottawa and Washington, see Jim Travers, "Future Bleak if Canada in Lockstep with the U.S.," *Toronto Star*, 7 February 2002, p. A27.
- 32. Manley.
- 33. Mitch Potter, "Canadian, U.S. Troops 'a Team' in Kandahar: It's 'One for All, All for One,' says top U.S. Commander," *Toronto Star,* 6 February 2002, p. A1.
- 34. Peter Baker and Susan B. Glasser, "U.S. Allied Forces Patrol Battle Zone, Pursue Survivors; Canadian Troops Join in Brief Firefight," *The Washington Post*, 15 March 2002, p. A14.
- 35. Bryan Bender, "Canadians Search for Al Qaeda Fighters," *Boston Globe*, 14 March 2002, p.1. See also Newswire, "US, Canadian Troops Battle al-Qaida," Associated Press, 14 March 2002; and Steve Thorne, "Canadians Kill 3 Al Qaeda Fighters," *Toronto Star*, 15 March 2002, p. A10.
- 36. Author interviews and conversations with over 30 Canadian officers, from the rank of major through general, between October 1999 and December 2003, both in Canada and the United States.
- 37. Lieutenant Colonel Pat Stogran, "OEF: Interoperability in Combat, The Canadian Perspective," lecture presented at the US Army War College, Carlisle, Pa., 21 May 2003. Used with permission.
  38. Ibid.
- 39. Press Release, "Operation ATHENA: The Canadian Forces Participation in ISAF," *Department of National Defence*, 28 November 2003, http://www.gc.ca/site/operations/Athena/index\_e.asp. As of that date, Major General Andrew Leslie served as the Deputy Commander of ISAF and Colonel Peter Devlin served as the Commander, Kabul Multinational Brigade (composed of Canadian, French, and German units). Canadian Lieutenant General Rick Hillier assumed command of ISAF in February 2004.
- 40. Chief of the Land Staff, Advancing with Purpose: The Army Strategy (Ottawa: Department of National Defence, 2002), p. 6.
- 41. Kevin Cox, "Sea Kings Ordered to Stand Down," *Globe and Mail*, 31 October 2003, p. A9. Flights were suspended after two helicopters lost power during a training exercise. The Sea King helicopters are 40 years old and in poor condition after logging many hours under very difficult conditions. Replacements will not be available for five, perhaps even ten years.
  42. Ibid., p. 3.
- 43. Denis Stairs, In the National Interest: Canadian Foreign Policy in an Insecure World (Ottawa: Canadian Defence and Foreign Affairs Institute, 2003). Denis Stairs was joined in this study by David J. Bercuson, Mark Entwistle, J. L. Granatstein, Kim Richard Nossal, and Gordon S. Smith.
- 44. Roundtable Participants, *Canada in Transition* (Ottawa: Public Policy Forum, 2003). Roundtable participants included leading businessmen from across Canada, along with representation from media, academics, and members of think tanks.
- 45. Canada's actions in Afghanistan, and now Haiti, indicate that the government is trying to dispel this image of lots of talk but little action. It remains to be seen how long these commitments can be maintained with the current structure, personnel, and funding.
- 46. Dr. G. John Ikenberry of Georgetown University coined this term in 2003. He used it to describe the actions of other liberal states to peacefully reign in or modify the actions of the United States, a liberal superpower.
- 47. Mark Odell, "Canada Calls for Greater Commitment from NATO Countries to Mission in Afghanistan," Financial Times, 4 December 2003, p. 2. After August 2004 Canada will scale back its troop commitment to ISAF. At present, 15 percent of all Canadian ground troops are deployed overseas. If you



discount the United States, this is almost four times the NATO average. Additionally, around 40 percent of the ISAF troops are from Canada. This highlights the lack of responsibility on the part of NATO member countries and Canada's concerns about this, to say nothing of the fact that Canada's influence in NATO has been waning for the last few decades. It also points out that the United States is a more reliable partner.

- 48. See my article, "Homeland and Hemisphere," Christian Science Monitor, 20 December 2001, p. 9.
- 49. Canada did not join the OAS until 1990.
- 50. Michael Hart, "Lessons from Canada's History as a Trading Nation," International Journal, 47 (Winter 2002-2003). See also Tamsin Carlisle and Joel Baglole, "Canadian Businesses Fear Fallout of Iraq Stance," The Wall Street Journal, 28 March 2003, p. A11; and Bernard Simon, "Trade Concerns as Canada Sits Out War," The New York Times, 2 April 2003, p. W1.
- 51. Stéphane Roussel and Athanasios Hristoulas, The Quest for Trilateral Security in North America (Montreal: Institute for Research in Public Policy, 2003).
- 52. Ibid., pp. 3, 17-21.
- 53. DND Policy Group, "Canada-Latin America/Caribbean Defence Relations," Department of National Defence (Canada), January 2002, http://www.forces.gc.ca/adminpol/eng/defence/ca\_la\_relation\_e.htm.
- 54. Fact Sheet, "Achievements of the CAA During the Last 10 Years," Conference of American Armies, 2003, http://www.redcea.org/english/10year.html. See also Bonnie Golbeck, "Canadian Army Hosts International Conference," The Maple Leaf, 5 November 3003, p. 8.
- 55. News: Headlines, "Canadian Army Hosts Conference of American Armies," Department of National Defence (Canada), 14 November 2003. http://www.army.dnd.ca/LF?English/6\_1\_1.asp?id=76.
- 56. Author interview with Major General Carl Freeman, Chairman of the Inter-American Defense Board, in Washington, D.C., on 17 November 2003. Author interview with Colonel R. R. Ryan, deputy chief of the Canadian delegation to the IADB, in Mexico, On 27 October 2003. Admiral Mack is a strong force for the reform of the IADB. He is working to promote a more useful role for the board in support of hemispheric security cooperation.
- 57. Author interviews with members of the Binational Planning Group, NORAD, and US NORTHCOM in Colorado Springs, Colorado, 17-18 January 2003.
- 58. For a good discussion of this subject, see Joel J. Sokolsky, Sailing in Concert: The Politics and Strategy of Canada US Naval Interoperability (Montreal: Institute for Research on Public Policy, 2002).
- 59. Probably the best analysis of this schism is Michael Adams, Fire and Ice: The United States, Canada and the Myth of Converging Values (Toronto: Penguin Canada, 2003). See also Clifford Krauss, "Canada's View on Social Issues is Opening Rifts with the U.S.," The New York Times, 2 December 2003, p. A1. On many social issues, from gay marriage to drugs, Canada and the United States are moving farther apart. Canadians also are generally more communitarian and less individualistic than Americans. Liberal Party Prime Minister Paul Martin retained power in the June 2004 parliamentary election, although his party lost 42 seats and he now faces the added challenges posed by leading a minority government.
- 60. John MacCormac. Canada: America's Problem (New York: Viking Press. 1940), pp. 127-42.
- 61. David G. Haglund, "North American Cooperation in an Era of Homeland Security," Orbis, 47 (Fall 2003), 676-82. Haglund also points out that Canadians are very sensitive to erroneous claims by US politicians and others about terrorists slipping across the border into the United States. Apart from combating ignorance on both sides of the border, leaders can set a tone for policy discourse that improves relations and perceptions. 62. Ibid., p. 676.
- 63. The author had a conversation with a Canadian diplomat and senior military officer at an OAS conference in Mexico City on 27 October 2003, and during the conversation the diplomat took a morally superior tone on Canada's human security agenda in the Americas. When I asked what resources Canada was willing to commit to making this a reality, there was no reply. I turned to the military officer and asked if he agreed with the diplomat. He declined to comment. He did say that he was concerned about military resources available to provide assistance within the Americas.
- 64. Unsolicited comments made to the author by senior officers, officials, and diplomats from five countries in the Americas and Europe during 2003 in the United States. See also James Travers, "He Was a Failure," Toronto Star, 18 October 2003, p. A11. Travers describes Canada under Chretien as "a country that lost its prestigious place among the world's nations and a country struggling to find balance in its critical relationship with Washington." In typical Travers fashion, he also presents the positive accomplishments of the Prime Minister, none of which are in foreign policy, in James Travers, "He Was a Success," Toronto Star, 18 October 2003, p. A11.
- 65. Clifford Krauss, "Canadian Candidate Suggests an Effort to Mend Ties With U.S.," The New York Times, 4 May 2003, section 1, p. 19.
- 66. Casey Haskins, "Why Canada Has No National Security Strategy: An Outsider's View," unpublished paper, February 2004. Lieutenant Colonel Haskins was the US Army War College Senior Service College Fellow at Queen's University for 2003-04.
- 67. Author interview with David Pratt, Member of Parliament, Liberal Party, Nepean-Carleton Riding, in Ottawa on 16 August 2003. Mr. Pratt also served as Chair of the Standing Committee on National Defence and Veterans Affairs. See also the editorial, "Soldiers' Pay Up, Now Recruit More," Toronto Star, 29 December 2003, p. A23, which argues that pay increases are largely due to the efforts of Mr. Pratt when he served as the Chairman of the House of Commons Standing Committee on National Defence and Veterans Affairs. Additionally, David Bercuson, Director of University of Calgary's Centre for Military and Strategic Studies, called Pratt "the most qualified person in a generation to have assumed the post [of Defence Minister]."
- 68. David Pratt, "Fostering Human Security: A Joint Canada-U.S. Brigade," unpublished paper, October 2000.
- 69. Bruce Campion-Smith, "PM Salutes Armed Forces," *Toronto Star*, 16 December 2003, http://www. torontostar.com. 70. Daniel Leblanc, "PM's Visit Buoys Defence Staff," *Globe and Mail*, 16 December 2003, p. A5.
- Daniel Leblanc, "Ottawa Pushes Ahead with Bids for New Copters," Globe 2003. and Mail. December http://www.globeandmail.com/servlet/story/RTGAM.20031217.wucopters17/BNStory/Front/.
- 72. For an excellent Canadian analysis on cooperation, see Stéphane Roussel, "Honey, Are You Still Mad At Me? I've Changed, You Know...: Canada-US Relations in a Post-Saddam/Post-Chretien Era," International Journal, 58 (Autumn 2003), 571-90.
- 73. For a comprehensive assessment, see Brian MacDonald, "The Capital and the Future Force Crisis," in Canada Without Armed Forces? ed. Douglas L. Bland (Kingston, Canada: Queen's Univ. Claxton Papers, 2003).
- 74. "Security Assessment—North America," Jane's Sentinel, 7 October 2003, http://sentinel.janes.com. These comparisons are not an argument for Canada to maintain military power on a proportional basis (either based on population or GDP). That is for Canada to decide. But they do illustrate that
- 75. Editorial, "Define Canada's Global Agenda," Toronto Star, 31 December 2003, p. A17.
- 76. Joseph T. Jockel, "Four US Military Commands: NORTHCOM, NORAD, SPACECOM, STRATCOM— The Canadian Opportunity," Institute for Research on Public Policy, IRPP Working Paper Series no. 2003-03, http://www.irpp.org/miscpubs/archive/wp/wp2003-03.pdf.



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## **ARMOUR SCHOOL HOSTS ANNUAL FAMILY DAY**

by Sgt A.J. Harper, Standards Sqn



Children enjoy one of the jumping castles!

Saturday, the 17th of September may have been a wet rainy day but it did nothing to dampen the enthusiasm of members attending the Armour School Family Day. The Armour School Family Day is an annual tradition aimed at achieving camaraderie and interaction between our soldiers and their families. It also serves to provide our families with a sense of what our profession is like. Family members of the Armour School were treated to a hearty barbecue, the opportunity to try out and fire the various AFV simulators, the chance to go for Leopard C2 tank and LAV III rides or play on the small arms trainer as well as a host of other fun activities. Mid day brought the highly anticipated car crush by a Leopard C2 tank with member's names being drawn to

determine who would crew the Leopard! A profitable 50/50 draw also took place with proceeds being donated to the appreciative Oromocto Food, Furniture and Clothing Bank.

This amusing and spirited day could not have been possible without the help of Oromocto Sobeys, the CFB Gagetown Base Fire Department and all Armour School members who worked hard to make the 2005 Family Day a memorable event.

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- "US Marine Corps Homepage" http://www.usmc.mil/marinelink/mcn2000.nsf/frontpagenews
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