

The Stand-Up Table

Commentary, Opinion and Rebuttal

A Note to Our Readers:

Stand Up Table commentaries normally do not include background about the author, but given the nature of the discussion below, it was felt that providing these details might enhance the credibility of the commentary.

About the Author...

Christopher Ankersen left the Canadian Forces in September 2000 after eight years as an officer in Princess Patricia's Canadian Light Infantry (PPCLI). He served in Croatia in 1992-1993 with 3 PPCLI and in Kosovo in 1999 with 1 PPCLI. He has written on a wide range of defence topics and has won several awards, including one from the British Army for his work on individual and collective rights in the military and one from the Royal United Services Institute for his study of the use of history in decision-making. He completed a B.A. in Military and Strategic Studies from Royal Roads Military College in 1992 and an M.Sc. in International Relations at the London School of Economics in 1998. He works as strategic management consultant in London, England and will return to the LSE in October 2001 to study for a Ph.D.

"TOO MANY HOUSEBOATS": WHY THE CANADIAN ARMY DOESN'T "DO" CHANGE WELL

I cannot say whether things will get better if we change; what I can say is they must change if they are to get better.

Georg Christoph Lichtenberg

Dr. Scot Robertson initiates an interesting discussion in his article "Challenge and Response: Innovation and Change in the Canadian Army."¹ Unfortunately, he is overly optimistic. The Canadian Army is not truly wedded to the notions of change and innovation because of a widespread lack of familiarity with key theoretical concepts, created by a lack of education, a dearth of solid experience and the habit of intellectual embezzlement. As a result, the Army turns to incrementalism as a kind of security blanket, a buffer of half-measures against uncertainty and failure. Faced with crisis, instead of real change—revolution—the Canadian Army opts for the allure of the safe choice—normalcy.

EDUCATION

Education is essential to change, for education creates both new wants and the ability to satisfy them.

Henry Steele Commager

The Canadian Army has not focused on education, preferring training instead. Unfortunately, in choosing instruction over learning, the Army has done itself a disservice. It has ensured that it is poorly equipped to **think**.² What the Army does well is to **execute**, to make things happen, to make a system work the way in which it was designed. The Army's "can do" attitude means it always "gets there," and almost all of its missions are successful. The Army teaches its new recruits this credo and reinforces it throughout their careers. Training—from basic to advanced—stresses drills, lists and procedures. A soldier is trained, rather than educated, to strip and assemble a machine gun or to physically operate the complex systems of the Coyote. Training is vital and cannot be replaced. It became necessary in pre-industrial age armies because of the lack of formal education. In the development of industrial age armies, training became more important because the synchronization of soldiers and units using more sophisticated equipment required it. This training, or instruction-by-rote, works very well at making what is in place work reasonably well. However, it is not very good at imagining a better way of doing something, of changing—

not just rearranging—but fundamentally going back to the drawing board and asking probing questions. This is where education comes in.

Education is an approach to learning. It is a philosophical and pedagogical methodology. It is not about facts and figures, procedures and policies, drills and details. It is about ideas: how to identify them, how to analyze them, how to challenge them and how to come up with them. It is about the kind of critical thinking that will eventually lead to creativity. Education in the Army has not been taken seriously and even recently has come into focus only as an academic pre-requisite, just one more check in a long line of boxes. Now, from early on, and throughout their careers, soldiers must be educated, exposed to ideas—old and new—about their profession. Only through proper education will the Army equip itself with the tools and skills it needs to handle change. Indeed, an educated Army will better understand how change comes about and be better able to analyze and implement those things applicable to current and future requirements. On the tumultuous ocean of change, training is the Army's anchor, while education is both its rudder and its sail.

EXPERIENCE

Added to the Army's lack of education is a lack of solid experience. Increasingly, training is being capped at lower and lower levels—real brigade group exercises where formation and unit commanders and their staffs are put to the test—are becoming things of the past. Furthermore, field training has increasingly become a form of rehearsal. Battle runs are repeats from years past, with commanders and drivers performing their roles and acting on cue. Real experimentation is hard to shoehorn in; for example,

companies and combat teams have a difficult time trying out different approaches or methods. Time (and gas and mileage) available for “shake outs” or episodes of “let’s try this another way” are few and far between. On top of this, with so few chances to get into the field, every “attack” counts. As commanders are evaluated and watched at every turn, there is little room to be daring and fresh. Better to take the hill in the tried and true fashion, at least while the Boss is watching.

In the standard rehearsal exercises, there is little problem solving conducted. Even when problem solving is conducted, it is often constrained by resources or safety issues. Soldiers are faced with a lose-lose proposition: they are unable to try new things because they just do not fit into the exercise script, and, at the same time, they have not been faced with challenging problems often enough to become accustomed with uncertainty. The tendency to revert to the set-piece way “they did it at battle school” is reinforced once again. When characteristics of military operations such as volatility, complexity and ambiguity are removed from the learning environment, it can only have a detrimental effect.

Field exercises are infrequently force-on-force affairs, and even more seldom is any opposing force allowed ‘free play.’ Without a thinking and active enemy, few lessons are learned. When the weapons effect kit is used and thinking enemies are played, the experience gained is amplified at all levels being exercised. These lessons form part of a soldier’s education and are the building blocks for recognizing and handling change. Being told something is fine; discovering for oneself how and if something works is profoundly different. Ask anyone who has been a part of an exchange or worked with another army or gone through the Joint Readiness Training Centre (JRTC) or the National Training Centre. In these experiences, soldiers are exposed to different ways of doing things and it requires them to decide what is good and should be kept and what is bad and should be discarded. Without challenging experiences, exist-

ing ways of working—tactics, techniques and procedures, standard operating procedures and doctrine—are never truly tested, never stretched enough to reveal where the cracks and fault lines are.³

Due to this lack of education and experience, the Army has a narrow field of view. As a result, when the Army is faced with the idea of change, it tends to revert to what is known. Attempts to examine theories (such as manoeuvre warfare) or equipment (such as the LAV III) lean towards comparisons of old theories and equipment. “Manoeuvre Warfare is not very different from business as usual,” the Army thinks, “so we can get away with a few minor modifications.” Or, “The LAV III is really just an Armoured Personnel Carrier, not unlike the M113. It can do all the old things, only better.” Without a thorough familiarity with the fundamental concepts involved, this method of adoption by analogy is understandable. However, it is not innovation, and it means that new ideas and kit are often merely added to existing systems. It is modification, not change.

EMBEZZLEMENT

Almost all absurdity of conduct arises from the imitation of those whom we cannot resemble.

Samuel Johnson

Like a magpie, the Army steals shiny things. And, like a magpie, the Army does not always know what it has stolen. In this case, the loot is not bits of silver paper or bottle caps but rather pieces of doctrine and terms of art. Some say that this is efficient, even economical. We can get the “Manoeuvrist Approach” without going through the intellectual journey. We can get “Combat Functions” without the baggage of analysis. While this habit of acquisition does seem to change things, at least on the surface, it is augmentation not innovation. What is most troubling, from the perspective of innovation, is that when ideas are adopted, the larceny by which they were acquired is not preceded by assessment, analysis or debate. The absence of any kind of process by which

the ideas are created means that they remain foreign and need translating. This translation often equals approximation and much of the original intent of the ideas is lost. The concepts of operational command and operation control, for instance, are still not well understood, probably because they do not lend themselves to appropriate comparison with the previous Canadian command relationships.

INNOVATION AS REVOLUTION

People talk fundamentals and superlatives and then make some changes of detail.

Oliver Wendell Holmes, Jr.

Thomas S. Kuhn, in *The Structure of Scientific Revolutions*, describes the process through which theories and ways of working are changed. When a single paradigm is established, the field is said to be in a state of normal science. All practice is based on the established theory and what little debate that does exist is focused on minor points of detail. Inevitably, such a field runs into anomalies (occasions or events that do not accord with the prevailing paradigm). The field is then described as being in a state of crisis. Faced with these challenges, organizations have three choices: they may ignore the anomalies, dismissing them as “one-offs” or freaks; they may socialise them, incorporating them into the dominant paradigm, often as exceptions that prove the rule; or, they may accept the anomalies and begin to question the prevalent paradigm, seeking to replace it with a new one. At this stage, the organization is in a state of revolutionary science with several competing paradigms extant. The more often a body of knowledge is in such a pluralistic phase, the healthier it is: assumptions are questioned, options for ways of working are discussed and debated and critical thinking abounds. Eventually, one paradigm will be decided upon, and a new period of normal science will commence. Kuhn’s work refutes the view that knowledge is cumulatively gathered and that new theories evolve from old ones. New theories must be born from revolution.

Kuhn concludes that the first two options for dealing with anomalies are far more prevalent than the third; true revolutionary thought is rare at an organizational level. “When confronted by an anomaly [a theory’s] defenders... will devise numerous articulations and ad hoc modifications of the theory in order to eliminate any apparent conflict.”⁴ In this way incrementalism is born. Rather than abandoning the existing paradigm, bits and pieces are added or subtracted in order to gloss over inconsistencies.

But incrementalism is not innovation. Tinkering is not real change. Partly owing to the fact mentioned above, where a lack of experience means anomalies are often not encountered, real revolutionary thinking is rare in the Canadian Army as it is in most militaries around the world.⁵ However, even a cursory examination of a doctrine of half measures reveals its futility. Trying to modify one paradigm, so as to retain it, can introduce severe logical inconsistencies. Often the vocabulary is changed, while the philosophical underpinnings remain. Unfortunately, innovation requires an organization to “walk the walk” as well as “talk the talk”. Often it is the system itself that needs replacing, not any one of its parts, and systems cannot be replaced incrementally. There is no halfway to Manoeuvre Warfare, for example. This is because the premises that are the foundations of the two paradigms—attrition and manoeuvre—are incommensurable.

“Best of both worlds” thinking has led to the creation of several “houseboat” theories in the Canadian Army: houseboats aren’t great houses, and they aren’t great boats either.⁶ Innovation means intellectual risk taking and living with uncertainty. Ignoring anomalies, or recognizing them but then trying to gloss over them, is seen as being easier than real change because it avoids the feeling of leaving the comfort of what is here today for the freefall of change. To be successful “...creative [theorists] must occasionally be able to live in a world out of joint” with what Kuhn calls, “the essential tension” implicit in innovation.⁷

ENGENDERING INNOVATION

Broadly speaking, innovation may be brought about by rectifying the shortcomings enumerated above—increasing education and experience and reducing embezzlement. However, there are some instrumental steps that can be taken to nurture a climate that encourages and seeks innovation, rather than one that pays lip-service to it:

- **Be bold.** Provide broad goals and visionary direction. Identify objectives without proscribing possible courses of action or outcomes.
- **Stress education** as a means **and** as an end. Teach soldiers how to think, rather than what to think. Develop challenging reading lists and professional development routines that go beyond the normal and the known.
- **Get comfortable with uncertainty.** Don’t wait for things to ‘settle down’ before starting; acknowledge that they aren’t ever going to be stable and constant. Don’t look to avoid or manage change, seek to grow through it. Introduce more variables and less constants in planning and scenario development. Kill the sacred cows.
- **Foster dissent** through communication, by holding writing contests like the British Army’s Bertrand Stewart Essay contest and institutionalising debate like that found in the United States Marine Corps (USMC) Gazette. These initiatives should be supported by the chain of command and not merely imposed on junior officers as professional development. Encourage NCMs to participate by focusing on innovation, rather than purely academic paper writing. Models, processes, tricks and new ways of doing things should be showcased.

- **Lead change.** Rather than scoffing at this factor on a PER, leaders should look for change and seek to lead from above, while listening to those below. Establish positions of “thought leadership,” where innovators are given credit and responsibility. Honest reviews of lessons learnt should be conducted, looking for anomalies.
- **Lose as well as win.** Develop realistic training that includes challenges so difficult they lead to “failure” not “exercises by numbers” that always end in success. Realistic opposition forces (OPFORs) and weapons-effect simulators are a must. Simulation training must be progressive and tough. This kind of training should test one’s ability to tackle problems, not rehearse solutions. Finally, training should allow for low-level experimentation and repetition, so that soldiers feel comfortable with the basics and, at the same time, are able to broaden their experience.

CHANGING MINDS

Truth does not triumph by convincing its opponents and making them see the light, but rather its opponents eventually die, and a new generation grows up that is familiar with it.

Max Planck

Things are getting better. The creation of Directorate of Army Doctrine, for instance, has helped reduce the cries of “Is there a doctrine in the house?” heard so loudly even five years ago. The Directorate of Land Strategic Concepts and the Army Simulation Centre are increasingly producing a point of view, something almost unheard of in the Canadian Army since the interwar period. *The Army Training and Doctrine Bulletin* and *the Canadian Military Journal* are providing a medium for expression and

purpose nature of the aircraft will ensure that this capability will always be available to the Army commander. Nevertheless, because enhancement of aviation mobility generally requires a corresponding reduction of recce and armed capabilities, I would suggest that mobility tasks will remain a lesser priority for aviation in terms of its day-to-day tasking.

As for Captain Bradley's question of why we should undertake such a developmental path? If our enduring doctrinal requirements aren't enough justification—which I believe they are—consider the increase in overall force effectiveness that aviation brings to the table. The ability to engage targets at the limits of recognition and identification, using the same platform that will be able to look deeper than any other tactical system, will greatly shorten the sensor-to-

shooter loop and subsequently the commander's decision/action cycle. Mobility, reach, stand-off, precision lethality, protection and overwatch, the ability to re-task while airborne and achieve responsiveness across the entire AO, and the ability to look and engage in depth while moving—all situate aviation as an unmatched force multiplier. If you can get past the dated thinking that equates aviation roles to dedicated aircraft types and into a consideration of marrying RMA technologies to an airborne platform, you will realize a big chunk of your doctrinal capability requirements effectively and at reasonable cost.

Finally, we aren't the first to think of this. Air recce and firepower are hard doctrinal requirements in the armies of all our major allies. Many, including the U.S. Army, provide for aspects of these doctrinal

requirements with what are essentially utility aircraft. Specifically in terms of the CH-146, armed variants are already flying in the service of other countries. Maybe dedicated aircraft types will be the end product of this evolution of aviation capabilities at some point in the future, but until then, the CH-146 is postured to provide credible interim capabilities. Maturing technologies that define the RMA will increase the impact of such capabilities in the timeframe of the Army of Tomorrow.



Commentary on "Civil Disorder and the Canadian Soldier Overseas: What Do We Do? The Palladium Experience," by Major Wayne Eyre, The Army Doctrine and Training Bulletin, Vol. 4, No. 2, Summer 2001.

Lieutenant-Colonel R.K. Chamberlain, Commanding Officer of the 1st Regiment Royal Canadian Horse Artillery, writes...

Major Wayne Eyre has raised a timely issue in his article on civil disorder on Op PALLADIUM. His points, while specifically focussed on the experiences of the 1st Battalion, The Royal Canadian Regiment, are certainly well researched and pertinent for consideration on peace support (PSO) or crisis response operations. Clearly, the level of detail in techniques developed and the corresponding lessons learned should be considered in the future. In my previous post as the Directorate of Army Doctrine (DAD) 7 (Firepower), I was intimately involved in the production of new Army doctrine. I believe a brief explanation of the ongoing doctrine production cycle will show that action is currently underway to address the shortfall that Maj Eyre has pointed out.

It is worth noting that DCDS 2/98 restricted training for riot control and that the old Aid-to-Civil Power manual was rescinded. As a result of recent operational experiences indicating a rise in crowd confrontation situations, Armed Forces Council (AFC) directed that doctrine, equipment and training issues be re-evaluated to improve force protection. The Chief of the Land Staff has the lead on this endeavour, but clearly, there are areas of mutual interest for the Chief of the Maritime Staff and the Chief of the Air Staff concerning naval boarding parties and airfield defence respectively. Consequently, DAD 7 leads a pan-CF group that has been involved in actioning the direction of AFC. Since the issue of dealing with crowds covers the complete spectrum of conflict and continuum of operations, a holistic approach has

been taken to address actual and acceptable requirements for the development of doctrine, the procurement of equipment and the development of the requisite training.

The doctrine is envisaged to address the improvement of force protection for CF troops facing crowd confrontation situations in domestic operations, PSO and warfighting. Correspondingly, an interim draft doctrine was developed for all scenarios, specific crowd confrontation equipment was acquired and training, in conjunction with the OPP, was conducted for the 3rd Battalion, The Royal Canadian Regiment Battle Group currently deployed.

Based on lessons learned so far, Draft 3 of B-GL-322-009/FP-001 Unique Operations - Crowd Confrontation Operations (CCO) is near completion and should be ready for wide review in the fall and subsequent formal approval. This publication will provide the necessary doctrinal framework for further staffing to procure CCO equipment and the development of equipment-specific

intellectual development. These early and important aspects must be followed by an institutionalization of innovation and the creation of an environment that embraces and encourages change. Without this wholesale conversion and commitment to change, Planck's statement above may prove to be true.



The author would like to acknowledge the comments given by Colonel (ret'd) William Doll, USA, of the Joint Warfare Analysis Centre, Washington, D.C.

1. Scot Robertson, "Challenge and Response: Innovation and Change in the Canadian Army," *Army Doctrine and Training Bulletin*, Vol. 3 No. 4/ Vol. 4 No. 1, Winter 2000-Spring 2001, pp. 69-74.
2. In order to measure this, one might take as a proxy the lack of expressed interest in thinking, as manifest by the absence of good entries into the ADTB's Warfighting Essay Competition.
3. The fact that a great deal of innovation occurs during war (and often after defeat) is evidence of this point.

4. Thomas S. Kuhn, *The Structure of Scientific Revolutions, Third Edition*, (Chicago: U of Chicago P, 1996), p. 78.

5. For an examination of incrementalism in the US Armed Forces see the author's, "A Little Bit Joint—Component Command: Seams, not Synergy," *Joint Force Quarterly*, Spring 1998, pp. 116-121.

6. One example of a "houseboat" that springs to mind is the ill-fated Cougar, renamed from tank trainer to fire support vehicle. How good was it in either role? Did changing its name change its capabilities?

7. Kuhn, p. 79.

More on "The CH-146: An Armed Helicopter for the Canadian Army" by Major D. Houde, Vol. 3, No. 4/Vol 4, No. 1, Winter 2000/Spring 2001 and Stand-Up Table commentary by Captain Tom Bradley, Vol. 4, No. 2, Summer 2001.

Lieutenant-Colonel Mike Dabros, the A7 at 1 Wing Headquarters, Kingston, Ontario, writes...

I feel compelled to respond to the comments of Captain Bradley that appeared in *The Stand-Up Table* concerning the use of the CH-146 as an armed helicopter. I am most concerned about the insinuation that there is no doctrinal basis for such an undertaking. The doctrinal roles of aviation continue to endure as reconnaissance, firepower and mobility. These roles are consistent with the Chief of the Land Staff's (CLS) stated priorities for Canadian aviation in the Army of Tomorrow—reconnaissance, firepower and limited mobility tasks. That we have been unable to provide for all of these roles in the past is more a question of policy, will and resources than anything else. Further, there is no stipulation, as suggested by Captain Bradley, that dedicated attack aircraft types can only fill the firepower role of aviation. This notion is nonsense and is at odds with aircraft employment in the majority of the world's armies. If this were true, the OH-58D, armed-Lynx and armed-H-60 (to name but a few) would not exist.

As well, old Canadian doctrine viewed armed or attack aviation as a division level resource, with only an occasional support requirement existing at the level of the brigade. However, in terms of a brigade *group*,

and in consideration of maturing doctrine, this distinction disappears. Certainly, the UK Army Aviation Corps has provided integral aviation direct fire support to brigade-sized formations for years using an armed helicopter. Further, the lethality of the brigade group is increasing, as is the size of the expected brigade area of operations (AO), and technology is the enabler that will make this transition possible. Aviation technologies are front and centre in terms of an ability to provide the required levers. Arming the Griffon is all about leveraging existing and future technologies to provide for the Army's hard doctrinal requirements.

A bit of background is required. The CH-146 is a utility helicopter. It is not a transport helicopter, it is not an attack helicopter and it is not a reconnaissance helicopter. It is none of these things. By NATO definition, it is a utility helicopter pure and simple, and it does not meet the defining criteria of **any** of these other types (including that of transport helicopter—in fact, it falls far short of the lift requirements of even a "light" transport helicopter). By definition, it is a utility helicopter. Likewise, by definition, an armed variant of the CH-146 would fall within the category

of aircraft described in doctrine by the term "armed helicopter." While such an aircraft would have limitations when compared to dedicated purpose-built types, armed helicopters in the services of our allies provide a significant battlefield capability.

There are many people who believe the Griffon was acquired to replace all of the Chinook, Twin Huey and Kiowa fleets. This belief is incorrect. The Statement of Requirement (SOR) for the Canadian Forces Utility Tactical Transport Helicopter (CFUTTH) addressed certain capabilities (including specific lift requirements) that were previously addressed by these other aircraft, but the CFUTTH was never intended as a pure replacement for any of them. There is no doubt that it does not meet some of the stated requirements outside of the ideal conditions upon which the wording of the SOR was based. Its inability to lift the light gun for anything but training and administrative purposes is a combination of this and the fact that the weight of the gun increased by some 15-20% between the writing of the SOR for the CFUTTH and the time the gun itself was fielded. The CH-146 remains a utility helicopter. One clear advantage of the utility helicopter is that it is able to provide for aspects of all of the doctrinal aviation roles (mobility, firepower and reconnaissance) to varying degrees. Leaps in technology—especially in the area of sensor technologies, precision-guided weaponry

and defensive electronic warfare equipment—are drastically expanding the employment potential of the utility helicopter in its broader context as an aerial platform able to provide for the Army’s doctrinal needs. The utility helicopter will likely never offer the high-end capability that is delivered by dedicated aircraft types, but through technology levers it will come awfully close. This is consistent with CLS direction that such an aircraft be capable of participating in all operations of war but not necessarily be capable of conducting all of the associated tasks. The bottom line is that a utility helicopter must provide significant capability in a flexible package. The significance of this capability is increasing with developing Revolution in Military Affairs (RMA) technologies.

The CH-146 (as a utility helicopter) has to date only been called upon to provide for aspects of the Army’s aviation mobility requirement insofar as it is capable of doing so. The reality is that mobility is probably the area of employment where this particular utility helicopter has the least to offer in relative terms. Many have observed in Kosovo that, for most missions, it is limited to lifting only four passengers on a routine basis. Unfortunately, when one talks of leveraging technology to provide for the doctrinal roles of aviation, lift capacity is not something that is easily addressed by anything other than major modification to the aircraft—i.e., I don’t know of any “strap-on” mission kit that increases the lift capacity of an aircraft. So, although improvements to lift capacity are possible in the context of component changes and a mid-life upgrade, they are not likely in the mid-term. For the time being, what you see is what you get; if you insist on carrying 450 pounds of armoured flooring and three hours (+) of fuel, what you get is the ability to provide tactical mobility to four or five soldiers at a time. At the time of its acquisition, the predominant employment being considered for aviation in the Canadian context was mobility type tasks. It is fortuitous that in the intervening years, the

Army’s appreciation of the future security environment has changed, and with it, has changed the types and weighting of aviation capabilities that it sees as necessary. I say that this is fortuitous because this particular utility helicopter is better suited to providing the reconnaissance and armed capabilities identified in the Army of Tomorrow than it is to providing the lift capabilities it has been used for over the last five or six years. Just as the Army’s future is changing, the future of the CH-146 is changing in lockstep. The less the Army wants this aircraft to deliver mobility, and the more the Army wants it to deliver recce and firepower, the more it has to offer in terms of its contribution to the effectiveness of the combined arms team. The fact is, the ability of this aircraft to meet the challenges of the future is better than was its ability to meet the challenges of the past as a utility helicopter cast in a purely transport role.

The electro-optical reconnaissance, surveillance and target acquisition (ERSTA) system being procured for the CH-146 is a good example of how this is so. The cross section of a Griffon is five or six times smaller at 5-6 km than the cross section of the old Kiowa used to be at 1-2 km, the range at which it had to operate to carry out its task. Sensor technologies afford a level of stand-off to airborne platforms that makes the use of a utility helicopter in a reconnaissance role a standard practice in many countries. The OH-58D is, in essence, a utility/ multi-purpose platform enhanced with electro-optical (EO) recce capabilities and a basic armed capability. It too would make a poor transport helicopter. Without its EO sensors, it would not be survivable in the recce role, just as our old Kiowas were not. And ERSTA will field a capability that is two generations removed from what is flying on the Kiowa Warrior. Just as the Griffon, properly equipped and leveraged in technology, is better suited to reconnaissance on the modern battlefield than it is to transport roles, so will it be demonstrated that its use

as an armed platform offers much more to the overall effectiveness of the force than its continued use in limited transport roles. It simply lacks the lift capacity to make much of a living as a dedicated lift platform.

Do not be fooled by the way we have employed this aircraft to date in places like Kosovo and Bosnia. Get rid of the 1200 pounds of soldiers and their gear, and remove the 450 pounds of floor armour. Clearly, the Army would be far more combat capable utilizing that 1600-2000 pounds of aerial weight potential to provide recce and firepower capabilities (*à la* Kiowa Warrior in the light attack/recce role) than it would be flying around tactically questionable sections (-) of four men. Would you rather have the ability to provide tactical mobility to four or five soldiers or a logistical equivalent? Or, would you prefer the ability to task a sensor that can detect targets at 28 km, recognize them at 16 km, identify them at 9 km and engage them at 8+ km? It all depends on the capability that you elect to build into the available payload of the basic utility airframe. Sure there are limits (a utility platform will never offer the high-end capability of an Apache or Commanche), but tactics, techniques and procedures (TTP) respect those limits. Furthermore, those same limits can be further mitigated by incremental improvements such as implementing an engineering solution to the current torque sensitivity problems (that makes crews reluctant to operate at the all-up-weight of the aircraft), better integration of ERSTA functions into the forward cockpit, and eliminating the flight engineer from non-transport missions. Isn’t it great that the Army has decided in the last few years to place a higher premium on aviation recce and armed roles than on transport roles, because this utility helicopter is far better postured to provide for the former roles. That is not to say that it retains no lift potential; clearly it does (as per its contemporary employment). In fact, lift potential will surely improve with any incremental improvements to the aircraft, and the enduring multi-

drills, guidance on tactical formations and training plans. Directorate of Land Force Readiness staff continue to monitor the use of CCO on operations, Directorate of Land Requirements 5 staff are examining equipment requirements, Directorate of Army Training 3 staff will be monitoring training, and DAD 7 staff

will continue to develop CCO doctrine in conjunction with J7 Doctrine, Lessons Learned and Standardization (DLLS) joint doctrine requirements.

In closing, I thank Maj Eyre for a well-presented case on his experiences that will be of use in the future. I sincerely hope that all personnel with

similarly strong opinions on CCO will take the time to review the CCO doctrine in order that it benefits from the wide range of experience on this subject within the CF.



Observations on the commentaries in the Stand-Up Table by Major Peter Williams and Major Ian Hunt, ADTB Vol. 4, No. 2, Summer 2001.

Sergeant Arthur Majoor of Headquarters, 36 Canadian Brigade Group in London, Ontario writes...

CONTINUING THE DISCUSSION OF AMPHIBIOSITY

In reference to the letters by Major Williams and Major Hunt on the subject of amphibiosity, I think two points should be clarified.

First off, I am in agreement with Major Williams that the Canadian Forces require restructuring. Changes in demographics alone will force restructuring if only to preserve capability in the face of a shrinking recruiting base. Add new technologies adapted to military purposes and an uncertain security environment, and the future direction of the Canadian Forces is very unclear indeed. The problem with the proposed amphibiosity is that it puts the cart before the horse by proposing structural changes to generate a joint service doctrine, rather than the structure evolving out of our existing doctrine. Sadly, we seem to be buying new equipment without reference to existing doctrine, as the *Quarre de Fer* exercises demonstrate.¹

To answer Major Hunt, the Canadian expedition to East Timor, the proposed operation in Zaire and the M.V. Katie fiasco all illustrate there are times when the Canadian Forces will have to go it alone. Imagine what would have happened if the Indonesians had contested our arrival in East Timor with mines,

small surface craft or armed action ashore. We must not fall into the trap of relying on allies who may not be able or willing to lend a hand if the mission does not coincide with their interests.

To sum up then, amphibiosity is a robust power projection capability that is not supported by Government policy, current or projected equipment purchases or CF doctrine. Restructuring

Commentary on "Civil Disorder and the Canadian Soldier Overseas. What do we do? The Palladium Experience" by Major Wayne Eyre, The Army Doctrine and Training Bulletin, Vol. 4, No. 2, Summer 2001.

Captain Robert S. Dunn, of the Directorate Land Requirements and the Cloth the Soldier Desk Officer for Ballistic Protection since July 2000, writes...

Major Eyre's article details the equipment normally worn by soldiers engaged in crowd confrontation and riot control. Endnote eight remarks on the level of control at which this equipment was held. He states:

During Operation "Palladium" Roto 6 the release authority to issue and wear face shields was normally retained at the national command level, unless forecasted threat dictated a downward delegation of authority. In the case of a spontaneous incident, authority would be required before face

the Army to support joint doctrine is an urgent requirement, but attempting to tie this into an expensive restructuring project is doubtful, to say the least. Once again, the challenge is to find an economical means to develop and implement a joint service doctrine for the Canadian Forces.



1. Major R.L. Mader, "Manoeuvrist Operations: Some Thoughts on Whether We Have got it Right," *The Army Doctrine and Training Bulletin*, Vol. 3, No. 4/Vol 4, No. 1, Winter 2000/Spring 2001, pp. 50-53.

shields could be issued from company (or in some cases battle group) stores, raising the distinct possibility that troops would already be deployed lacking proper protection.¹

The current Paulsen "riot control" visor worn with the U.S. Personal Armour System Ground Troops (PASGT) helmet provides reasonable protection against larger, low velocity objects (e.g., rocks) that might be encountered but does not afford fragmentation or ballistic protection. The current visors used for Aid-to-Civil Power training were

procured based on an urgent operational requirement (UOR) for employment in the Former Republic of Yugoslavia and are not fully compatible with the CG 634 soldier's helmet. As a result, soldiers have been issued the U.S. PASG) helmet with the Paulsen visor specifically for riot control operations. These visors are not robust for general-purpose land force operations because they scratch easily and are susceptible to catastrophic damage from petrol, oils, lubricants, fuels, insect repellents and cleaning agents that are in common use. These visors also have inherent optical deficiencies: when subjected to direct or indirect light, reflection and glare from that light compromises the soldier's concealment. As well, these visors are not suitable for general field operations due to the unacceptable degree of optical distortion, particularly when used with some in-service optical devices.

The conditions and control measures that are described above for riot control visors will not be addressed by the Cloth the Soldier (CTS) Ballistic Protective Visor (BPV). However, the BPV has been designed to be a general-purpose

visor rather than a purpose-built riot control visor. It will be the first in a family of visors that the Army may procure.² The visor will provide protection against primary and secondary ballistic fragments including mortars, artillery and grenades. The aim of this commentary is to provide supplementary information regarding the future of protective equipment and, in particular, the CTS BPV.

The BPV will provide upper facial and ocular protection in the form of a half-face visor. User feedback from extensive field trials identified the essential operational capabilities. They are: optical quality, ballistic protection and compatibility with issued equipment and weapons. The design has undergone numerous studies to optimize ease of operator use, centre of gravity and other human factor issues, which are essential to visor operation.

The Land Force does not possess a singular or an integrated ocular or facial protection system that provides the individual soldier with adequate ocular and facial security. Currently, LF soldiers are issued facial and ocular protective equipment in

very select circumstances. The introduction of the BPV will correct this deficiency by providing both ocular and upper facial protection against fragments, flying debris and other battlefield threats. The BPV will be issued to all soldiers deployed and training to deploy on UN, NATO, national and coalition operations.

In conclusion, after the fielding of the BPV as a general purpose visor, soldiers will have eye and upper facial protection. However, there will still be a requirement for a dedicated riot control visor that will in all likelihood have similar rules of engagement and control measures as stated above.



1. Major Wayne Eyre, "Civil Disorder and the Canadian Soldier Overseas. What do we do? The Palladium Experience," *The Army Doctrine and Training Bulletin*, Vol. 4, No. 2, Summer 2001, p. 30.
2. The Close Combat Non-Lethal System project is responsible to field a riot control visor that will fit properly on the CG 634 helmet.