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Canada's first armoured car: one of the original 'autocars' of Brutinel's 1st Motor Machine Gun Brigade, Ottawa, September 1914.

THE PEN BEFORE THE SWORD: THINKING ABOUT 'MECHANIZA- TION' BETWEEN THE WARS

The military in Canada has...produced its share of soldier-diplomats and soldier-intellectuals. But it has produced no soldier-strategists. There are no Canadian Douhets or Slessors, no Fullers or Liddell Harts, much less any Canadian Clausewitzes or Mahans. The reasons for this deficiency are complex: they have to do with the unimportance of Canada as a military power, the difficulty of defining a strategic role, the unattractiveness of the military profession for intellectuals and, above all, with the fact that the nation's non-military intellectuals, until perhaps very recently, might be numbered on the fingers of a severely mutilated hand.¹

James Eayrs

Officers in the Canadian Forces have long studied strategic or operational level military operations through the use of fictional enemy and friendly force organizations. The 'Philistines', the 'Fantasians', or more recently 'Genforce', have been continually and soundly defeated by good old Canadian know-how thanks to the development of organizations such as Corps 86, Corps 96, or other hypothetical models of a future post-mobilization army drawn out from an 'electronic battle box', fully equipped with tank destroyers,

attack helicopters and armoured cavalry brigade groups, none of which actually exist within the Canadian Forces (CF). Land, sea and air force trainers accept that these types of notional organizations are required for educational purposes and as conceptual models for future force development in periods of tight budgets, when the CF simply does not have the resources to field and study such organizations in practice.

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Canadian Forces Base Borden Museum

Marl V tank belonging to the 1st Canadian Tank Battalion, Bovington, England, October 1918.

Officers in today's world of constrained budgets often find solace in reflecting on the effectiveness of the Canadian Army mobilized during the Second World War in light of the very minimal budgets of the inter-war years. Of particular interest is the rise of Canadian mechanized forces, non-existent before the war, yet which by 1943 had grown to include two armoured divisions, and which, during Operation "Totalize" in August 1944, included the world's first fully tracked armoured personnel carriers. The rapid development of the Canadian Armoured Corps and of Canadian mechanized operations capability relied, in most cases, on following the British lead. However, the intellectual groundwork laid in the pages of the *Canadian Defence Quarterly (CDQ)* from 1923 to 1939 was central to these developments. Without the theoretical instruction and debate which was led by the editors and contributors to *CDQ*, Canadian military development during the war may have been much less rapid. This article uses the example of the development of thinking about mechanization in Canada from 1929 to 1939 as a vehicle to examine the role played by a Canadian military journal (the *CDQ*) in laying the groundwork for later mobilization in time of crisis. It will be suggested that the value of theoretical military and intellectual debate far exceeds the small sum required to pay for it in peacetime.

A CANADIAN PERSPECTIVE

My purpose is not to force my views on anybody, it is merely to promote thought within the Canadian defence forces. Experience has taught me that one of the best means of promoting thought is to provoke it, hence the somewhat aggressive style adopted in some of my editorials.

Lieutenant-Colonel K.S. Stuart,
defending the editorial style of *CDQ*, 1934.²

The original *CDQ* was founded in 1923 at the direction of the Chief of Staff, Major-General J.H.

MacBrien, who determined that there was a need in Canada for a "service journal produced by Canadians"³ and that it would "try to reflect military thought, examine critically the direction of military development, and study in some degree the trend of world movements."⁴ The journal was produced at minimal cost and with no paid staff. In 1928, then Lieutenant-Colonel Kenneth Stuart became the editor. From that time, through to its abandonment in the rush of mobilization in 1939, he produced a

first-class journal which fully met the original objectives set out in 1923.

The *CDQ* was published quarterly, in October, January, April and July. Each edition included a long editorial written by Stuart which covered issues of the day, from international affairs, to weapons developments, to comments on organizational changes and, quite regularly, to editorial comments on some of the more contentious articles. The articles included original ones submitted to the journal by regular officers, by Militia officers and by academics, as well as articles reprinted from US, British, German and French journals. Each edition finished with commentary on Canadian and foreign military developments, reviews of foreign service journals, and useful book reviews on many of the key military works of the day.

The fact that the journal had some influence can be seen in a number of ways. The list of contributors includes many of the future leaders of the Canadian Army, as well as a number of foreign notables such as Major George S. Patton (1931) and Brigadier B.L. Montgomery (1938). Among the most notable of the Canadian contributors were Captain E.L.M. Burns (later Lieutenant-General), Lieutenant C.P. Stacey (later Colonel and doyen of Canadian military historians), Major Maurice Pope (later Lieutenant-General), Captain G.G. Simonds (later General and Chief of the General Staff), Captain F.F. Worthington (later Major-General), Lieutenant-Colonel H.D.G. Crerar (later General and Chief of the General Staff), Brigadier-General A.G.L. McNaughton (later General and Minister of National Defence), Lieutenant-Colonel G.P. Vanier (later Major-General and Governor-General), Lieutenant-Colonel G.R. Pearkes (later Major-General and Minister of National Defence) and, of course, by Stuart himself (later Lieutenant-General and Chief of the General Staff). For an army with fewer than 450 Regular officers, the quality with the journal was quite remarkable.

While it is difficult to quantify the influence of such a journal, its run of 2,000 copies attests to its wide distribution.⁵ As Lieutenant-Colonel Stuart wrote, “The efforts of the *CDQ* in this educative task are perhaps minute, but we have succeeded in making a fairly important cross section of Canadian public opinion think about imperial and international affairs... Our effort may be a ‘drop in the bucket’, but it is achieving results.”⁶ Naturally, Stuart’s comments are biased in favor of his own efforts; nevertheless, it is clear by the breadth of contributions and the replies to many of the contentious articles that the journal did succeed in furthering military and strategic thought in Canada at the time. In fact, the journal was perceived to be so successful that the Canadian Institute of International Affairs forwarded a report to the government which took exception to the fact that the Department of



Canadian Defence Quarterly
Carden-Loyd Machine Gun Platoon of the Royal Canadian Regiment, London, Ontario, April 1933.

National Defence (DND) was subsidizing a journal which often, in both editorial comment and in content, countered official policy. In 1936, an article by Lieutenant-Colonel E.L.M. Burns, entitled “The Defence of Canada”⁷ which took a very critical stance against the lack of funding, further stirring the pot and forcing the Chief of the General Staff, Major-General E.C. Ashton, to defend the journal. These actions would not have been required if the journal did not enjoy some influence.

The Permanent Force which was re-established between the wars never exceeded 4125 personnel. Canadian defence policy, such as it existed, was based on the traditional Canadian policy of reliance on its part-time soldiers for mobilization. Budgets were restricted, to say the least, and in 1932-33 it had reached a nadir of \$14 million, barely enough to allow the military to survive and certainly an inadequate amount for it to be trained and properly equipped.⁸ As for mechanization, the Royal Canadian Horse Artillery (RCHA) had been given tractors and trucks to pull their guns in the late twenties, but the rest of the Permanent Force and the Militia had no mechanized fighting vehicles until twelve Carden-Loyd carriers (the forerunner of the ‘Bren-Gun Carrier’) were purchased in 1931. Even a few months before the outbreak of the war in 1939, the modern armament of Canada’s Army included only two tanks and the twelve Carden Loyds.⁹

EDUCATING FOR MECHANIZATION

There he was, like Baron on Munchausen, expounding wildly implausible theories about tanks and planes fighting with and against each other. It was fantastic! At first we thought he was pulling our legs. When we realized he really believed it, we shook our heads. “Poor old Worthy,” we said. “Completely cuckoo!” And now its happening just as he said. How the hell did he know?¹⁰

With this meager equipment it is all the more surprising to find the breadth of intellectual consideration given to mechanization in the pages of the *CDQ*.

The first article to appear on the subject was Captain E.L.M. Burns’ “The Mechanicalization of Cavalry” which appeared in April 1924. The purpose of the article was to “discuss the feasibility of mechanicalizing this arm.”¹¹

I have read every account I can find of the cavalry actions in the Great War, and in no case has it seemed to me that the cavalry did anything mounted on horses that they would not have been able to do mounted on an automotive machine.¹²

Burns completes his essay by suggesting that Canada, due to its great distances and its good ‘cavalry country’, would be well placed to give birth to the ‘new cavalry’. Obviously, the budgets of the 1920s put paid to Burns’ suggestions. Looking back on this paper and on others, it is difficult not to see the sense in Burns’ article. What one misses through hindsight are, however, the commonly accepted beliefs of the day. Burns’ article was followed by a series of articles by Lieutenant-Colonel C.E. Connolly of Lord Strathcona’s Horse which aimed to establish the effectiveness of cavalry in the Great War.¹³ The Cavalry Association also continued to ensure that pro-horse articles were reprinted from foreign service journals, such as “The Horse in War” by Field Marshal Earl Haig,¹⁴ and, interestingly, an article in 1930 written by Major George S. Patton,

US Cavalry which argued with the force of conventional wisdom that:

Regardless of the progress made in the development of fighting machines, cavalry will always be necessary. It will hold its own because no other agency can perform cavalry duties with equal reliability and dispatch...To expect mechanical vehicles - impotent without regular supplies, blind and deaf to control, and restricted by terrain - to take over these duties, is to expect the impossible.¹⁵

Patton's conclusion that the combined operations of both cavalry and mechanized forces would be required in future conflicts reflect the accepted doctrine of the day. The details of how cavalymen were dealing with this era of transition was well represented in an article published in 1931 by the Commanding Officer of the XII Royal Lancers (Prince of Wales').¹⁶ This paper described the transition of the unit from cavalry to an 'armoured car cavalry regiment':

...though I think nearly all of us would gladly welcome our horses back again, it is no use hoping for such an event. It is impossible to arrest the march of progress...our role in the future being the splendid one not only of assisting the horsed units of the cavalry in reconnaissance but also of helping them to break down opposition...¹⁷

The author concluded with the optimistic, "the moral and physical deterioration which some pes-

article, Captain J.D. Taylor, R.A. noted that although writers such as Colonel J.F.C. Fuller and Captain Liddell Hart advocated complete mechanization, recent exercises had:

... found that cavalry can be very useful and that the divisional cavalry ought to consist of a regiment rather than a mere squadron. At the close of the post-war decade, then, cavalry stock is rising and perhaps the pendulum of mechanization has reached the end of its swing.¹⁹

In 1928, Canada began the 'mechanicalization' of the RCHA.²⁰ By 1930, the *CDQ* had placed greater emphasis on the details of mechanization, and in the January 1930 issue a long and detailed article by the British Director of Mechanization appeared.²¹ The article was based on a lecture given in 1929 and, for its time, it rivals in quality similar papers from modern journals such as *Military Technology*. The level of detail and inclusion of eleven photographs would have provided serving Permanent Force (PF) and Non-Permanent Active Militia (NPAM) officers with a useful grounding in the state of the British mechanization programs of the day. This article was followed in April 1930 with a complementary essay on "The Employment of Tanks", which gave an excellent introduction to the tactical debates of the day over the correct roles of mechanized forces.²² The author, Major Henshaw, R.C.E. based his argument on the *Field Service Regulations, Volume II*, but he clarified both the doctrine and the counter-arguments.



Armoured cars during trails conducted by the Royal Canadian Dragoons, Petawawa 1935.

Armoured doctrine of the day was limited by technology. Light tanks were intended to serve as the infantry tanks of the day (1930), but according to Major Henshaw they lacked firepower and were not yet fully developed. In the case of new US models, they lacked speed. The light tank was required to support infantry attacks and reinforce reconnaissance elements. The medium tanks were, "the real fighting tanks and combined great hitting power with capacity for crossing considerable obstacles."²³ At the time they weighed approximately ten tons.

simists prophesied when the order to mechanize was first received has certainly not begun to set in yet."¹⁸ This theme that mechanization, though necessary, will never fully replace the cavalry is a persistent theme in *CDQ* through to the mid-1930s, when, gradually, discussion of pure cavalry issues virtually disappeared in favor of discussions of armoured forces. In a 1929

Heavy tanks had also been experimented with, but were considered to be too cumbersome and slow for realistic employment. Henshaw, though clearly supportive of mechanization, stops short of the Fuller and Hart argument of total conversion. He states clearly that "tanks are unsuitable for reconnaissance.... Cavalry, supported by light tanks and assisted by aircraft and armoured

cars, will continue to form the backbone of any force engaged in tactical reconnaissance.”²⁴

Henshaw’s article is of interest to the modern officer as it is a very early example of a debate which continues today: where should the tanks be held - centrally in reserve, on independent operations, or with the infantry?

The teachings contained in Field Service Regulations appear, at first sight, to be somewhat conflicting regarding the employment of armoured fighting vehicles. We are told that it is the first duty of tanks to assist the infantry, and also that “the tendency should be” to concentrate tanks for decisive operations rather than to distribute them throughout the army.²⁵

The answer for Henshaw lay in the development of both light tanks for infantry support and of medium tanks for massed armoured operations. This, of course, was in keeping with the doctrine of the day in most nations, but it fell far short of the type of armoured operations suggested by Colonel J.F.C. Fuller and Brigadier-General H. Rowan-Robinson, both of whom

The *CDQ* articles of the early 1930s continued to support conventional thinking, but at least they introduced the reader to the debates being considered. Henshaw, for example, did the Canadian reader (particularly the Militia officer parading in a small community) a great service by reviewing Rowan-Robinson’s book. Although his review was not fully supportive: “the author comes regretfully to the conclusion that cavalry must altogether disappear from the main theatres of operations in Europe,” Henshaw did bring iconoclastic thoughts to the attention of many inexperienced Canadian officers. “Air units should form an integral part of the Armoured Force, because the need for the closest cooperation is essential...the commander of the force must take to the air and commercial freight-carrier planes are to be used to bring up supplies and evacuate the wounded.”²⁸ Such thoughts were well ahead of their times, and it was only through *CDQ* that many Canadian officers could be exposed to these ideas and those of other forward thinking authors.

During this period, *CDQ* filled a void as there were few other outlets for tactical or strategic thought in Canada. No Canadian staff college existed at the time, and only three vacancies were reserved annually for



King's Own Cavalry Regiment Museum

Third course conducted at the Canadian Armoured Fighting Vehicles School in Camp Borden, August 1938. The Vickers Mark VI Bs were the first tanks acquired by the Army prior to the Second World War.

were advocating the type of independent armoured operations that eventually came to pass in 1940.²⁶ “Manoeuvres of this kind are advocated only by writers who wish to exaggerate the capabilities of armoured fighting vehicles and who are not responsible for issuing the actual instructions in practice.”²⁷

Canadians at Camberley and at Quetta. The annual essay contests were intentionally focused as catalysts for independent thought on relevant military issues. Topics were assigned for the competition, allowing the editorial board the ability to further focus the debates to some extent. Often, the essay topics were chosen to

spark open debate over government policy. In 1930, for example, the subject was, “discuss the roles which should be assigned to the armed forces of Canada...”²⁹ The 1930 competition was very successful, with the prize shared by Major Maurice Pope and a young Militia Lieutenant, C.P. Stacey. Major Pope later wrote:

I felt slightly aggrieved, wondering in my ignorance how an obscure and very junior militia officer came to know enough about defence questions and our armed forces to enable him to win, or share, the prize. I know better today.³⁰

Although some years were marked by a lack of response, the competitions did provide a vehicle for focused debate. In 1932 two competitions were held: an open competition which was won by Major E.L.M. Burns and a competition restricted to the Militia, which was again shared. This resulted in the publishing of the two winning Militia papers in July 1933, both under the



Canadian Forces Photo Unit: ZK 731

Major-General E.L.M. Burns, one of the early advocates of mechanization in the Canadian Army.

title, “The Influence of Mechanization and Motorization on the Organization and Training of the Non Permanent Active Militia.”³¹ The endnotes of both papers show that the authors were well read, and that past *CDQ* articles helped form their thoughts. In the first of these two papers, Major Baird described the state of the field as a debate between those who believed that mechanization should proceed gradually from the “rear to the front” and those “modernistic military writers” who argued that all horses would be eliminated in favour of entirely armoured formations.³² Baird reviewed the state of British armoured experiments and concluded that the time for full mechanization had not yet arrived. His recommended re-organization of the Militia included 20 cavalry regiments and the PF RCHA batteries as ‘horsed’ elements.

Second Lieutenant Gosforth, who shared the prize in 1933, went no further than Major Baird in calling for the end of the cavalry. Naturally, for a subaltern in the

17th Duke of York’s Royal Canadian Hussars, he supported maintaining the Cavalry Division on the books. His analysis of the problems on mechanization in a Canadian context is, however, very thorough. Gosforth believed that although the Imperial manuals could form the basis of Canadian doctrine, he noted: “These contain the universal truths of war as embodied in British military doctrine and experience. Even universal truths, however, require local interpretation and adaptation.”³³ His article included a cursory but important analysis of a particular Canadian issue – winter operations:

Winter means to the Canadian what it does to the Russian, but to very few others. Little thought has been given by post-war military writers to the problem involved by the employment of a modern army, particularly of mechanized formations, under the conditions of a true “continental” winter.³⁴

While both of these articles, as with most writings in *CDQ*, are based on British military thought and doctrine, they do show that specific Canadian approaches to the issues of mechanization were being considered in spite of the near total absence of the physical equipment. *CDQ* during this period was fulfilling its mandate of providing a Canadian perspective on military and strategic thought. Stuart summed up the journal’s collective attitude in a 1931 editorial:

We have not the means in Canada to experiment with these [armoured organizations] various possibilities, and it is only by experiment that practical difficulties can be recognized and definite conclusions reached. It is incumbent on us, therefore, to adopt a “wait and see” policy, and apply the results of British experiments to our own particular requirements.³⁵

CONTEMPLATING ARMOUR FOR THE TRENCHES

The problem of tanks in the attack is by no means an easy one to discuss, as no practical experience exists whereon to base discussion. In the last war tanks were so closely tied down to infantry that little can be learnt from the battles of that period. Since the war the tank idea has been so confounded by a jumble of other ideas...that it has become hopelessly entangled.

Major-General J.F.C. Fuller, 1932.³⁶

Although *CDQ* was providing a critical service of bringing the debates over mechanization into Canadian armories in a way that no other vehicle could

during the period, it would still be correct to say that its contributors and editors were victims of their own traditional outlooks. After the creation of the first Experimental Armoured Force in 1927, the British continually tested and trialled various organizations and formations. Apart from the few Canadian officers who attended Camberley, or were fortunate enough to view British exercises, the only knowledge of this training came to Canadian Officers through the interpretations which appeared regularly in *CDQ*. These 'Service Notes', regularly written by Stuart, gave the Canadian officer a flavour of the training and allowed some insight into the debates over the merits of various classes of tanks, or the tactics used. What was not possible in a journal was to give the reader an in-depth feel for how greatly military operations were evolving with the introduction of armoured forces. Canadian authors, while they wrote of mechanization, still thought in terms of static, positional operations and interpreted the value of armour in terms of roles in a future 'Great War,' complete with extensive trenches and fortifications.

A key debate in the 1930s was over the proper roles and mix of light and medium tanks. As discussed above, the light tank was originally viewed as the correct vehicle for strengthening reconnaissance elements and for assisting the infantry in overcoming machine guns in the defence.³⁷ With the increasing capability of anti-tank weapons and the strength of the defence, it became clear by the mid-1930s, however, that a better armoured tank would be required to operate in the enemy's main defensive area. British armoured thought explored the development of the 'I' (or infantry) tank to give it greater protection while supporting the infantry in the assault.

To attain the above needs the "I" tank must have heavier armour than the present Medium tank and, also, have obstacle crossing attributes which will enable it to negotiate the five or six-foot gaps presented by a normal trench system...it does seem a logical conclusion to sacrifice speed and radius of action in order to attain a higher degree of immunity from fire and more adequate obstacle crossing attributes.³⁸

The scenario depicted by Stuart for the employment of "I" tanks was still that of well-developed trench systems. For the infantry attack, supporting tanks were seen as attacking in waves:

. . . a tank attack in two or three waves would appear to be indicated; the objective of the first wave being the probable machine gun area in the rear, that of the second wave being the machine gun and light automatic area immedi-



Canadian Forces Photo Unit: ZK 797B

Major General Guy Simonds, another of the proponents of force modernization in the 1930s.

ately covering the localities being attacked, and the third wave being composed of "shepherding" tanks which might precede the infantry by 25 or 30 yards, mop up and lodge them on their objective...³⁹

This view of future war, as being mechanized but relatively immobile, stems from the actual experience of the majority of *CDQ*'s senior readership. As "Infanteer" wrote in 1933, "For many of us whose actual war experience is confined to position warfare, this role (mobile warfare) may be difficult to visualize."⁴⁰ Even the Field Service Regulations were concerned with 'wars of the first magnitude': that is, conflict in Europe, rather than with the far more likely colonial conflicts. It has been argued elsewhere that this dichotomy of British operations into the likely colonial conflicts which did not seem to require mechanization, and the future European conflict which would require armoured forces was the cause of British ambiguity in armoured development between the wars.⁴¹ The eventual British compromise to solve the "I" tank dilemma was to field mixed tank battalions which could deal with both reconnaissance and advance to contact tasks, as well as supporting the infantry assault. For Canadians, what was lost through the lack of practical training experience was the 'feel' for the true potential of armour. Without the equipment, a generation of officers developed who knew that mechanization was necessary and good, but who did not develop a manoeuvre attitude. Mechanization was still seen as a solution to the problems of 1917 and most applications of armoured thought were seen through that lens.

ON TO ALL ARMS COOPERATION

The bickering between the “Advanced Tank School” and the “Reactionary Infantry School” should cease, for successful attack in the future depends upon cooperation between these arms...

...The object of training is not to prove that “Infantry is the Queen of Battles” but to teach cooperation between the many varied fighting troops which are the essential components of a modern army.

Captain G.G. Simonds, 1939.⁴²

In the final two years of issue, comment within *CDQ* reflected changes in the military environment. The 1936 reorganization of the Militia had taken place after years of neglect. Four Militia cavalry regiments were converted to armoured car units, six infantry regiments were converted to tank units and the Permanent Force Tank School was created at London, Ontario. In 1938 the school was moved to Camp Borden and renamed the Canadian Armoured Fighting Vehicle School. Although, some progress was being made, the rank title of the Commanding Officer – Captain, Brevet Major, Acting Lieutenant-Colonel F.F. Worthington gives an indication that all was not well below the surface.⁴³ In fact, the six tank regiments had no equipment whatsoever, and even the tank school had no tanks until 1938 when two Mark VI Bs arrived. Nevertheless, the armoured forces of Canada had been substantially upgraded, albeit in conceptual terms.

Events in Europe had also changed Canadian thoughts on mechanization. In Britain, the existing cavalry division and the tank brigade were amalgamated into the new Mobile Division. Only divisional cavalry regiments would retain their horses from that point on.⁴⁴ The new Mobile Division was a true all arms organization and was applauded by Stuart as “a well-balanced, mobile, and hard hitting military machine...”⁴⁵ During the same British reorganization, the British infantry brigade was converted to a grouping of three infantry battalions with mechanized transport and one completely mechanized machine gun battalion. The British had chosen the fully motorized route, in contrast to the German preference for Panzer Divisions, in spite of the fact that most German infantry still walked into battle in 1940 and had their equipment pulled by horses.

Another event which had some effect on Canadian thinking was the Spanish Civil War, which was the first war in which both belligerents employed modern tanks in any numbers. It cannot be said that the war was studied in any great detail. However, foreign military jour-

nals followed it and in 1938 Stuart published some articles on it, including a translation of a German review of tank operations in Spain. The article stressed the all arms requirements of modern operations:

...it may be said that every experience with tanks (except one) showed one common factor in the result, which was that the tanks broke through the front and inflicted heavy losses on the enemy. But - and this is a decisive factor - the artillery did not support the attacks properly, and the infantry did not follow up! Then the tanks had to go back, usually with heavy losses.⁴⁶

The discussion of all arms operations was also the subject of a paper by Brigadier B.L. Montgomery.⁴⁷ The article, in which Montgomery characteristically stresses “the stage management of the battle” and the importance of a successful start to any operation, focused on the encounter battle between two mechanized forces. Montgomery emphasized that all arms capability would be required in the advanced guard of an advancing force, and he gave examples of possible formations. While this may seem obvious today, it was not doctrine at the time, and until mechanization, advanced guards were usually formed from single regiments, or battalions. Montgomery’s article was referred to by Stuart as, “the most thoughtful and valuable tactical discussion that has appeared in any British service journal for some considerable time.”⁴⁸ His decision to reprint the article was a demonstration of his intention to maintain *CDQ* as a vehicle for intellectual-military thought, even though the level of discussion was far above the fiscal and establishment realities in Canada at the time.

Perhaps the most famous series of articles that have appeared in the *CDQ* were those written as part of a running debate between Captain Simonds and Lieutenant-Colonel Burns in 1938 and 1939. The debate was triggered by Burns’ article “A Division that Can Attack” in which he argued that the proper mix of arms within a division should include a light tank regiment, a tank brigade and two motorized infantry brigades, along with a mix of other supporting arms.⁴⁹ Simonds’ response argued that the proper place for the limited number of tanks available to the British Army at the time was not ‘penny-packeted’ in the divisions, but held at army level for mass action.⁵⁰ Burns’ quest for flexibility and interoperability at division level more closely mirrors present tactical thinking; however, Simonds clearly was basing his arguments on doctrinal and fiscal realities of the day. Apart from the future careers of the authors, what is interesting about the debate is firstly, that the quality of problem analysis was clearly beyond the realm of Canadian realities of the day and, secondly, that the debate, “does, even in its

junior-senior interaction, serve to illustrate the heights to which regular force professionalism was capable of rising.”⁵¹ If nothing else, the debate forced two future Corps Commanders to analyze in great detail their own conceptions of all arms cooperation. Often this in itself is difficult for any officer to find time to do.

INTELLECTUAL GROUNDWORK FOR SUCCESS IN WAR

...since wars cannot be arranged to order merely to train officers, it follows that, after a long period of peace, the officers of an army must get their military education from reading and study.

Major-General W.A. Griesbach, 192952

The cost to the Department of publishing *CDQ* was approximately \$400.00 per year.⁵³ The value of the educational and intellectual benefits of the journal cannot be accurately measured. It is clear, though, that the journal had influence throughout the NPAM, with the Permanent Force officer corps, and within Canadian policy-making circles to some extent. The quality of the journal must speak for itself and be judged by the reader, but there is no doubt that many extremely successful officers took advantage of its pages to express their opinions, pass on their experience, educate their peers and to develop their own thoughts and powers of persuasion. Through its pages, *CDQ* educated a relatively isolated officer corps about mechanization and the development of new tactical thought. Without *CDQ*, few Canadian officers would have been exposed to military thinkers such as Fuller, Liddell Hart or Rowan-Robinson.

On mobilization, the Canadian officer corps was already familiar with armour and the concepts of mechanized warfare. That the Canadian Army came dangerously close to limiting the role of armour to infantry support during the war was clear when the Canadian Armoured Fighting Vehicle School was given the primary task of training infantry carrier drivers in early 1940.⁵⁴ The Canadian Armoured Corps was not formed until August 1940. The fact that most PF officers were aware of the tank debates which had taken place in the 1930s gave the armoured corps an ‘institutional’ push at a time of conflicting priorities and fiscal restraints. While it is difficult to prove what tangible impact the intellectual development provided by *CDQ* had upon mobilization, at least some officers felt the benefit of their theoretical base:

Major-General D.W. Spry and Brigadier Willis Moogk recalled that as junior officers they had

studied ‘J.F.C. Fuller and other up-to-the-minute experts, fire and movement, and other modern tactics,’ so that they were ‘well in advance of the schedules...followed in England in 1940’...⁵⁵

It is difficult to quantify the value of intellectual development at any time, but it is even more arduous to make the connection from abstract thought to success in war. It can be seen from the *CDQ*’s early tendency to place mechanization into the context of the 1914-1918 trenches that mere intellectual conceptualization has its dangers. It is equally clear, however, that *CDQ* in its educational role provided many officers with a vehicle to expand their tactical horizons during peacetime.

The obvious lesson for today is that an army neglects intellectual development at its own peril. The establishment of the *Canadian Military Journal* this year will rectify a serious gap in the intellectual development of the Canadian Forces. Until recently, strategic and tactical thought has been buried in the various branch and college journals and reviews, which were often of very inconsistent quality. Open debate over tactical, operational and strategic issues was virtually non-existent in Canada.⁵⁶ Even today, with near instant access to world electronic libraries and foreign military journals, there remains a need for Canadian interpretations and national military reflection. Canada’s ‘revolution in military affairs’, for example, may not perfectly mirror that of the US. The breadth of thought and the level of discussion and debate in



A mock tank—a Model-T Ford with a canvas superstructure—created by the Calgary Regiment (Tank) for training in 1938.

Kings Own Cavalry Regiment Museum

the pre-war *CDQ* must be mirrored today, particularly as the CF faces continued restricted budgets and risks losing core capabilities. The small investment made in supporting the furtherance of military thought today will reap long-term benefits and allow the CF to better face the, as yet, unknown challenges of the new century. Successful intellectual development cannot, however, solely rely on an institutional change and the establishment of a journal. It cannot be left to a handful of James Eays’ ‘soldier-strategists’. It will also require the contributions of dedicated serving officers and other members of the defence community, who will take the time to develop their own thoughts, and have the confidence to put them to the test of the critical review of their peers. *Sapere Aude!*⁵⁷



1. Eayrs, *In Defence of Canada: From the Great War to the Great Depression* (Toronto: University of Toronto Press, 1964), p. 104.
2. Stuart to F.R. Scott, quoted in J.L. Granatstein, *The Generals: The Canadian Army's Senior Commanders in the Second World War* (Toronto: Stoddart, 1993), p. 220.
3. Editorial, *Canadian Defence Quarterly*, Volume X, No. 2, January 1933, p. 135.
4. *ibid*, p. 135.
5. James Eayrs, *op. cit.*, p. 95.
6. *ibid*, p. 100.
7. Lieutenant-Colonel E.L.M. Burns, "In Defence of Canada", *CDQ*, Vol XIII, No. 4, July 1936, p. 379ff.
8. Colonel C.P. Stacey, *Six Years of War: The Army in Canada, Britain and the Pacific* (Ottawa: Queen's Printer, 1955), p.15.
9. *ibid*, p. 20. In the summer of 1939, 14 more tanks were purchased.
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13. Lieutenant-Colonel C.E. Connolly, "Canadian Cavalry Brigade at Moreuil Wood and Rifle Wood," *CDQ*, Vol III, No. 1, October 1925, p. 8ff, and "Cavalry Action During the German Offensive", *CDQ*, Vol IV, No. 3, April 1927, p. 265ff. Connolly was Brigade Major of the Canadian Cavalry Brigade in 1918.
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28. Henshaw, Book review of *Further Aspects of Mechanization*, *CDQ*, Vol VII, No. 1, October 1929, p. 122.
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30. Lieutenant-General Maurice A. Pope, *Soldiers and Politicians* (Toronto: U of Toronto Press, 1962), p. 71.
31. Major W.J. Baird, and 2nd Lieutenant Wm. Wallace Gosforth, "The Influence of Mechanization and Motorization on the Organization and Training of the Non-Permanent Active Militia" *CDQ*, Vol X, No. 4, July 1933, pp. 405 - 430 and 431 - 454.
32. Baird, *op. cit.*, p. 410.
33. Gosforth, *op. cit.*, p. 451.
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35. Lieutenant Colonel K. S. Stuart, "Editorial" *CDQ*, Vol IX, No. 1, October 1931, p. 6.
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47. Brigadier B.L. Montgomery, "The Problem of the Encounter Battle as Affected by Modern British War Establishment," *CDQ*, Vol XV, No. 1, October 1937, pp. 13 - 25.
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50. Captain G.G. Simonds, "An Army that can Attack - a Division that can Defend," *CDQ*, Vol XV, No. 4, July 1938, pp. 413 - 417.
51. John A. English, *The Canadian Army and the Normandy Campaign: A Study of Failure in High Command*. (New York: Praeger, 1991), p. 49.
52. Major-General The Honourable W.A. Griesbach, "Military Study: Notes of a Lecture," *CDQ*, Vol VII, No. 1, October 1929, pp. 19 - 28.
53. K.S. Stuart in James Eayrs, *op. cit.*, p. 99.
54. Worthington, *op. cit.*, p. 160.
55. Stephen Harris, *Canadian Brass: The Making of a Professional Army, 1860 - 1939*. (Toronto: University of Toronto Press, 1988), p. 203.
56. It must be said that the recent revival of the *Army Tactics and Doctrine Bulletin*, under the able editorship of Captain John R. Grodzinski, is, like the establishment of this journal, another positive sign of the renewed efforts to take military thought seriously in Canada.
57. Kant's motto for the Enlightenment. Literally, "Dare to be wise!," but translated by Kant as "Have the courage of your own understanding." From Immanuel Kant, "What is Enlightenment?," in *Kant's Political Writings*. (Cambridge: Cambridge University Press, 1996).