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Andrew McEwen

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“A useful accessory to the infantry, but nothing more”

Tanks at the Battle of Flers-Courcelette, September 1916

Andrew McEwen

The Battle of Flers-Courcelette stands out in the broader memory of the First World War due to one principal factor: the debut of the tank. The battle commenced on 15 September 1916 as a renewed attempt by the general officer commanding (GOC) the British Expeditionary Force (BEF) General Douglas Haig to break through German lines on the Somme front. Flers-Courcelette shares many familiar attributes with other Great War engagements: troops advancing across a shell-blasted landscape towards thick German defensive lines to capture a few square kilometres of barren territory at the cost of thousands of lives. The successful assault on Courcelette by the 2nd Canadian Division is typically regarded as a victory in Canadian memory of the war. In contrast, British forces attacking to the east did not achieve their intended breakthrough, and the battle is viewed in the UK as a minor advance.¹ The tanks' first combat deployment ultimately overshadowed the hard infantry fighting of 15 September in the broader memory of the Great War.

Nearly all of the works that discuss the Battle of Flers-Courcelette highlight the debut of the tank as the central feature of the battle. For example, the chapter on the 15

Abstract: The Battle of Flers-Courcelette is chiefly remembered as the combat introduction of tanks. The prevailing historiography maligns their performance as a lacklustre debut of a weapon which held so much promise for offensive warfare. However, unit war diaries and individual accounts of the battle suggest that the tank assaults of 15 September 1916 were far from total failures. This paper thus re-examines the role of tanks in the battle from the perspective of Canadian, British and New Zealand infantry. It finds that, rather than disappointing Allied combatants, the tanks largely lived up to their intended role of infantry support.

September attack in Martin Gilbert's *The Battle of the Somme* (2006) is entitled “The arrival of the tanks: ‘We are feeling top dogs.’” Similarly, Robin Prior and Trevor Wilson's *The Somme* (2005) discusses Flers-Courcelette in a chapter entitled “Lumbering Tanks: The Battle of 15 September.” Such works are in agreement about two principal conclusions: the attack was *not* a stirring success, but it did showcase the potential for the tank as an offensive weapon. The British official history discusses the many shortcomings of the tank on 15 September but concedes that the battle was a “valuable tryout” for the possibilities of tank assaults.² J.F.C.

Fuller was similarly unkind about the tanks' initial performance. In his *Tanks in the Great War*, Fuller wrote that the 15 September attack was “from the point of view of tank operations, not a great success.”³ He, too, argued that the silver lining in the tanks' poor showing at Flers-Courcelette was that the battle served as a field test to hone tank tactics and design for future deployment.⁴ One of the harshest verdicts on the tanks' debut comes from the Canadian official history. It commented that “on the whole... the armour in its initial action failed to carry out the tasks assigned to it.” It acknowledged, however, that the “All Arms” co-ordination of tanks, artillery, infantry and aircraft was not yet familiar to BEF commanders.⁵

An examination of the battle from the infantry's perspective suggests a more nuanced outcome. Despite the high hopes of General Haig and others for their effect on the battlefield, tanks were not expected to be decisive strategic weapons in their early operations. Rather, they were intended to serve as tactical accessories to the infantry assault. Infantry units were instructed prior to 15 September that tanks would be valuable in surmounting enemy machine gun posts and strongpoints, but were in no way to be depended upon for the advance.⁶ Flers-

Courcelette was not the harbinger of fast, offensive armoured thrusts, but of tactical support for infantry attacks.

The Canadian Corps and British XV Corps witnessed the greatest range of tank performance at Flers-Courcelette and will serve as the focal point of analysis for this paper. Out of five corps at the battle, these two experienced the most success with tanks and feature the best-documented analysis of tank operations on 15 September.

As tanks were designed from the outset to support infantry attacks across no-man's-land, the yardstick for tank success should be based upon how the infantry fared.⁷ Much of the primary analysis for this paper will therefore rest upon infantry battalion war diaries which contain intelligence and after-action reports and offer candid examinations of tank performance. A number of infantrymen from Flers-Courcelette, moreover, left eyewitness accounts of the tanks' performance, which supplement the war diaries with a human dimension of combat. These documents must be used with caution. An infantry unit's evaluation

of tank performance was often narrowly linked to the fate of the foot soldiers – low casualties counting as success, and high casualties as failure. Inconsistencies and biases of both the war diaries and personal accounts may be identified and balanced by reference to more broadly based secondary sources, such as official histories and analytical studies.

Although at Flers-Courcelette most of the tanks suffered mechanical breakdown or battle damage and failed to influence events, some tanks rendered valuable assistance to the infantry in surmounting German strongpoints. Both eventualities were anticipated and prepared for by the attacking infantry units. This paper will show that the tanks largely lived up to their intended tactical support role at Flers-Courcelette.

Strategic Context

As the Great War entered its third year in January 1916 both the Entente and Central Powers were intent on smashing through enemy lines and ending the stalemate on the Western Front. The British and French high commands agreed to

a massive joint offensive along the inter-army boundary in the Picardy region in May-June.⁸ These plans were disrupted by the German drive towards Verdun in late February which aimed to inflict such horrendous losses that the French would be forced to sue for peace and thereby isolate the BEF.⁹ Verdun descended into a savage battle of attrition. The French suffered an estimated 115,000 casualties by May.¹⁰

Desperate to alleviate the strain on Verdun, French commander-in-chief General Joseph Joffre pressured the British to continue with the planned offensive in Picardy, north of the Somme River. Haig protested that his forces would not be ready for a major assault until 15 August. This was unacceptable to Joffre and he persuaded Haig to commit to a 1 July start date.¹¹ The carnage at Verdun meant that the French contribution to the Somme offensive would necessarily be decreased, but Haig still maintained hopes for a breakthrough on the Western Front.

The British attack went in as scheduled in the morning of 1 July 1916 and was met with horrific

The battle of Flers-Courcelette saw the first use of tanks in battle. C.4 (Chablis), a Mark I (female) tank, assigned to support the 6th Canadian Infantry Brigade, was disabled early in the battle by a shell which disabled its track (see the damage at the rear of the tank).





Here, C.5 (Crème de Menthe), a Mark I tank traverses the Courcelette battlefield, September 1916. C.5 was a male variant armed with two naval 6-pounder guns and four Vickers machine guns. The female variant replaced the 6-pounders with two additional Vickers machine guns. The two-wheeled trailer pulled behind the tank was a steering tail used to help control the direction of the vehicle.

slaughter. The combination of deep German entrenchments and dense barbed wire that survived the long British artillery bombardment, coupled with lack of surprise meant that the defenders were well-prepared. Over 19,000 British and Empire soldiers were killed and some 38,000 wounded on the first day of the attack alone.¹² Undeterred by the scale of the losses, Haig continued to push. By late August, roughly eight square kilometres of German-held territory were captured at a cost of 100,000 British casualties.¹³ German strongholds such as those at Thiepval and High Wood, and the Quadrilateral trench network continued to elude capture even after months of horrific fighting.

By September Haig was ready once again to renew the offensive, believing that German morale and troop strength were nearing the point of collapse. He decided to strike along an 11 kilometre front extending roughly from Thiepval in

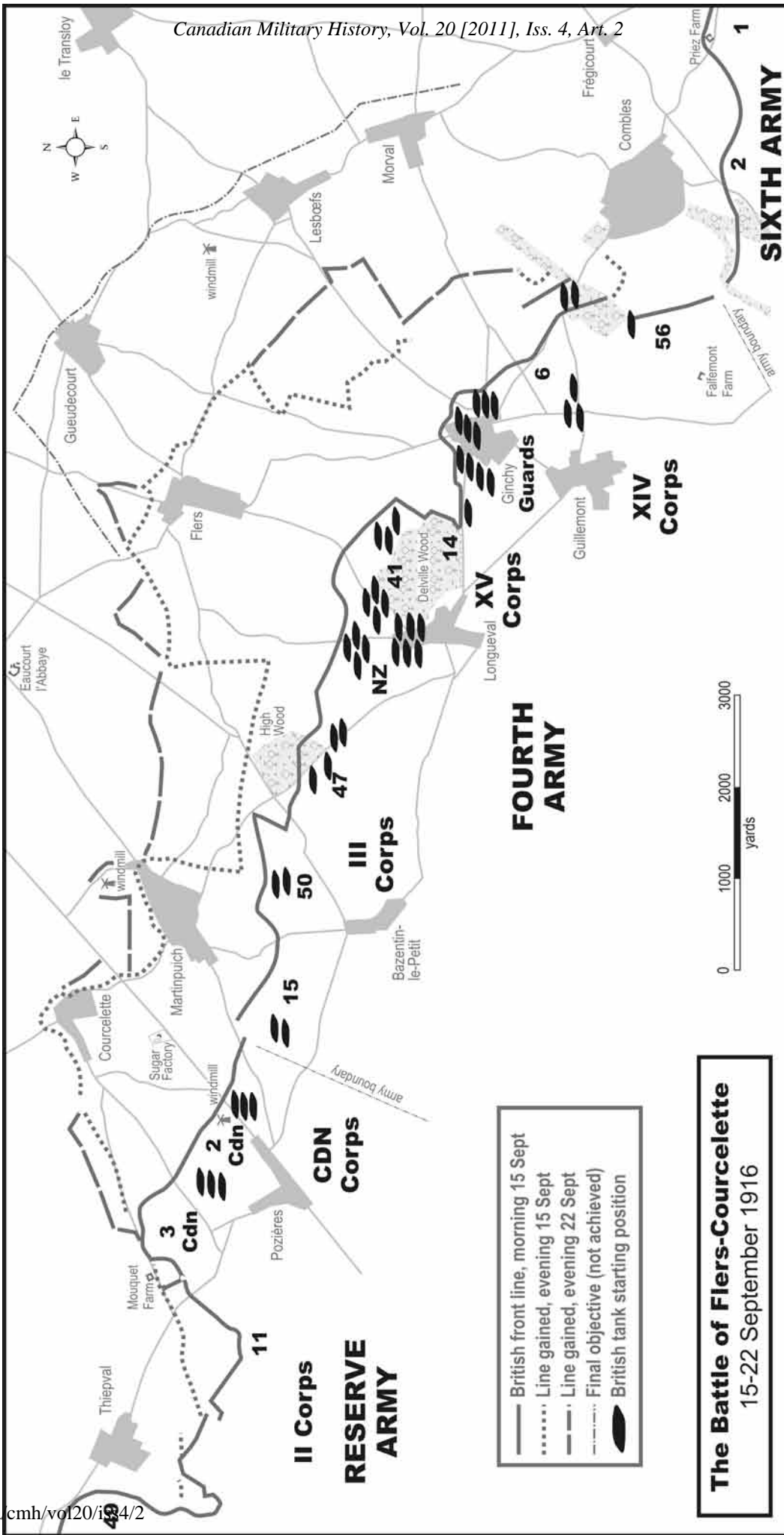
the east to Combles in the southwest.¹⁴ This stretch of the German line represented their "Third Position," a stout network of trenches and dugouts that were begun in February 1916. Haig hoped that breaking through this position would finally crack the German lines.¹⁵

The primary drive of the offensive was to be undertaken by General Sir Henry Rawlinson's Fourth Army, which was tasked with breaking through three primary lines of German defences and capturing the villages of Martinpuich, Flers and Gueudecourt on the first day. The Canadian Corps of the neighbouring Reserve Army would support this drive by attacking Courcelette. After the infantry had broken in to the German lines the cavalry would be committed for a drive on Bapaume and the less-comprehensively defended rear areas.¹⁶ In all, ten divisions were allocated for the assault against the five German divisions holding the sector.¹⁷ The

attack was scheduled to begin on 15 September.

The Tanks

Haig used every means at his disposal to increase the possibility of success for this second major effort of the Somme offensive. The centerpiece of the 15 September attack was to be roughly 50 rhombus-shaped Mark I tanks. By the summer of 1916 several companies of tanks were training in Great Britain under a shroud of secrecy. There were two principal variants of the Mark I: the male and female. Males were armed with four machine guns and two 6-pounder guns and were designed to engage German positions obstructing the infantry advance. The small caliber of a 6-pounder could not replace the devastating power of an artillery barrage, but it was powerful enough to knock out machine gun posts and enfilade captured trenches.¹⁸ The females



The Battle of Flers-Courcelette
15-22 September 1916

Map drawn by Mike Bechtold ©2012

were equipped with six machine guns to protect the males against German infantry. Females would always accompany male tanks into battle.¹⁹ These Mark I tanks could move approximately two kilometres per hour over ground broken up by trenches.²⁰

Haig initially wanted to include tanks in the 1 July attack, but they were not available in sufficient numbers.²¹ His patience for the tanks' debut grew thin by September, however, and he decided to deploy "C" and "D" Companies of the Heavy Section, Machine Gun Corps (as the tank force was then known) while many of their fellow tankers were still in transit to France. In the event, 49 out of 150 available tanks of the Heavy Section were integrated into the 15 September offensive.²²

Haig's decision to employ whatever tanks were available directly contradicted the advice of many of the tank's designers. Winston Churchill was an opponent of the modest deployment of tanks on the Somme, both before and after the fact. While serving as First Lord of the Admiralty, Churchill was a key figure in the early development of the tank, directing the Landships Committee, the body that developed the tank. Despite being ousted from government due to the Dardanelles fiasco in November 1915, he maintained an interest in the machines' deployment. In a memorandum dated 7 January 1916, he warned that "none should be used until all can be used at once."²³ Churchill's memorandum was distributed to the War Committee and Field Marshal Sir John French, Haig's predecessor as GOC of the BEF.²⁴ Partial deployment of the tanks, Churchill was convinced, would negate both their priceless surprise value and their potential for a mass assault. His views were shared by another early tank enthusiast, Lieutenant-Colonel Ernest Swinton. In a June 1915 memorandum, Swinton

had warned French and GHQ that "there should be no preliminary efforts with a few machines, the result of which would give the scheme away."²⁵

These criticisms of a disgraced politician and a relatively junior officer seem important in hindsight. The pressures on Haig to renew the offensive, however, made it hard to delay deployment of a new assault weapon from which so much was expected. Indeed, Haig was determined to employ tanks to breathe new life into the stagnating Somme offensive. His diary entry for 11 August showed impatience with the length of time it took to transport tanks, crews and spare parts from England to France: "I have been looking forward to obtaining decisive results from the use of these 'Tanks' at an early date."²⁶ On 22 August he wrote that "I cannot wait any longer for [tanks], and it would be folly not to use every means at my disposal in what is likely to be our crowning effort for this year."²⁷ Christy Campbell, in his recent study of the tank action at Flers, argues that Haig's conduct reflected the "recklessness of a man looking for a last chance."²⁸ Such criticism neglects the immense pressure on Haig to deliver tangible territorial gains to balance the awful bloodletting since 1 July. The tanks would receive their first taste of combat on 15 September 1916.

Preliminaries

The groundwork for the Battle of Flers-Courcelette was similar to the preparations for the 1 July attack and the 15 September assault was similarly intended to achieve a decisive breakthrough of the main German lines with exploitation by cavalry.²⁹ A heavy bombardment began at 0630 hours on 12 September and continued unabated until 15 September.³⁰ This attack featured another experimental approach

– the creeping barrage. A sharp bombardment was to deluge the German front as the infantry went "over the top" to catch the defenders out of their deep dugouts as they prepared to resist the assault. The barrage was then to drop back into no-man's-land and move forward at "lifts" of 45 metres per minute to provide the attacking infantry with a shield of shrapnel.³¹ To avoid hitting the tanks, 90 metre wide lanes would be left untouched by the barrage for the tanks to advance in sections of three machines approximately five minutes ahead of the III, XV and XIV British Corps of the Fourth Army.³²

The majority of tanks allocated to the attack were assigned to Fourth Army for its drive on Gueudecourt. Out of the 49 tanks of "C" and "D" Companies, 17 were assigned to XIV British Corps for its attack on Ginchy and the Quadrilateral, eight were allocated to III British Corps for the assault on High Wood, and 17 were to work with XV British Corps in the capture of Flers and Martinpuich. Seven were assigned to the Reserve Army for the assault of Courcelette.³³ The fateful decision to leave lanes untouched by the creeping barrage open for the tanks meant that many Fourth Army formations were dependent on the tanks to crush German wire and strongpoints ahead of the infantry.³⁴ In some sectors of the attack, the tanks were pressed into a more active role in the opening assault than originally intended. In the event that the untested machines failed to keep up with the advance, the attacking infantry would be left dreadfully exposed to German fire without the protection of either tanks or barrage.

Despite Haig's optimism about the tanks' capabilities, the small number of machines, and the fact that they were untested in battle, meant that they were treated as an adjunct to the infantry's assault. An operations order for the 12th Battalion of the East Surrey Regiment, for example,



The shell-scarred Somme battlefield. This photo was taken during operations on 15 September 1916 and shows the ground over which the Canadians attacked. The ruins of Courcellette are visible amongst the shell fire and battered tree line.

stipulated that the tanks' "role is to destroy the hostile Machine Guns and Strong Points, and clear the way for the infantry."³⁵ The infantry were instructed to call for help from tanks by signalling with their rifles and helmets in the event that they were held up by stiff German resistance. The attack was not to depend on tank assistance. The same operations order noted carefully that "should the tanks become out of action our Infantry are on no account to wait for them," and the infantry would keep up the pace of the advance to "derive the benefit of the artillery barrage."³⁶

The last-minute arrival of tanks in France meant there was little time for training with the infantry. Some formations, such as the British 56th Division, were able

to conduct battalion-sized exercises before 15 September. These small training exercises were not common, however, and some units were only able to send small groups of officers to observe tanks practicing behind the lines.³⁷ Many prudent battalion commanders remained skeptical of the tanks' potential worth on the battlefield. An order for the 27th Battalion, Canadian Expeditionary Force (CEF) commented that "two 'tanks' will likely be told off to co-operate with us but our plans are to be made irrespective of them."³⁸

Such skepticism was not shared by many of the combat troops who were extremely curious about the characteristics of the new weapons. Those soldiers who witnessed tanks exercising shortly before

the battle were awed despite their ungainly appearance and ponderous movement. Captain Duncan Macintyre, a staff officer serving with the 28th Battalion CEF, witnessed a tank exercise near the front on 13 September. After seeing the tank manoeuvre over shell holes and trenches behind the line, Macintyre wrote in his diary that "we felt they would make a big difference to our side in any fight they were in."³⁹ Major Agar Adamson of the Princess Patricia's Canadian Light Infantry (PPCLI) wrote to his wife on 14 September that "we have some wonderful new devices for putting it over the Germans... the new 'ships' look promising."⁴⁰ Private Edgar Goddard, also of the 28th Battalion, wrote that he and his

friends were “chuckling over the surprise that the Germans would get the next day” after seeing tanks parked behind the lines before the attack.⁴¹ Whether these writings convey a sincere belief in the tank’s potential or a forced optimism for home-front consumption is difficult to say. Nevertheless, these statements suggest the soldiers were confident that the new machines would at the least administer a rude shock to the enemy.

The Canadian Corps Attack

Lieutenant-General Sir Julian Byng’s Canadian Corps was tasked with anchoring the left flank of the larger Fourth Army drive by capturing the village of Courcelette and holding it against German counterattacks. Major-General Richard Turner’s 2nd Canadian Division was ordered to capture the fortifications in front of Courcelette: Sugar Trench, Candy Trench and a fortified sugar beet refinery known as the Sugar Factory. These defences comprised an interconnected series of dugouts, machine gun posts and barbed wire manned by the German 45th Reserve Division.⁴² They were between 400 to 800 metres from the Canadian front line.⁴³ The 5th Canadian Infantry Brigade (CIB) was held in reserve for the capture of Courcelette itself, another 800 to 1,200 metres distant, if German defences were breached by the 4th and 6th CIBs in the initial assault. Major-General Louis Lipsett’s 3rd Canadian Division was to attack Fabeck Graben

trench in order to protect the left flank of the 2nd Division.⁴⁴

The six tanks, plus one in reserve, allocated to the Reserve Army were assigned to the 2nd Canadian Division.⁴⁵ These tanks of Heavy Section’s “C” Company were divided into two detachments of three tanks and were parcelled out to the 4th and 6th CIBs for a converging attack on the Sugar Factory.⁴⁶ The tanks were to advance alongside the infantry at zero hour, and thus no gaps were left in the barrage as on the fronts of the British corps where the tanks moved out ahead of the infantry.

Zero hour was set for 0620 hours on 15 September.

The infantry battalion war diaries are curiously reticent about the role of tanks during the attack on Courcelette. The fact that only six tanks participated in the Canadian attack meant that most troops would not have the opportunity to fight alongside them. Notwithstanding the excellent precision and detail of a few soldiers’ accounts, most primary documentation of the Canadians’ experience with tanks at Courcelette is vague and difficult to relate to the course of the battle. Christy



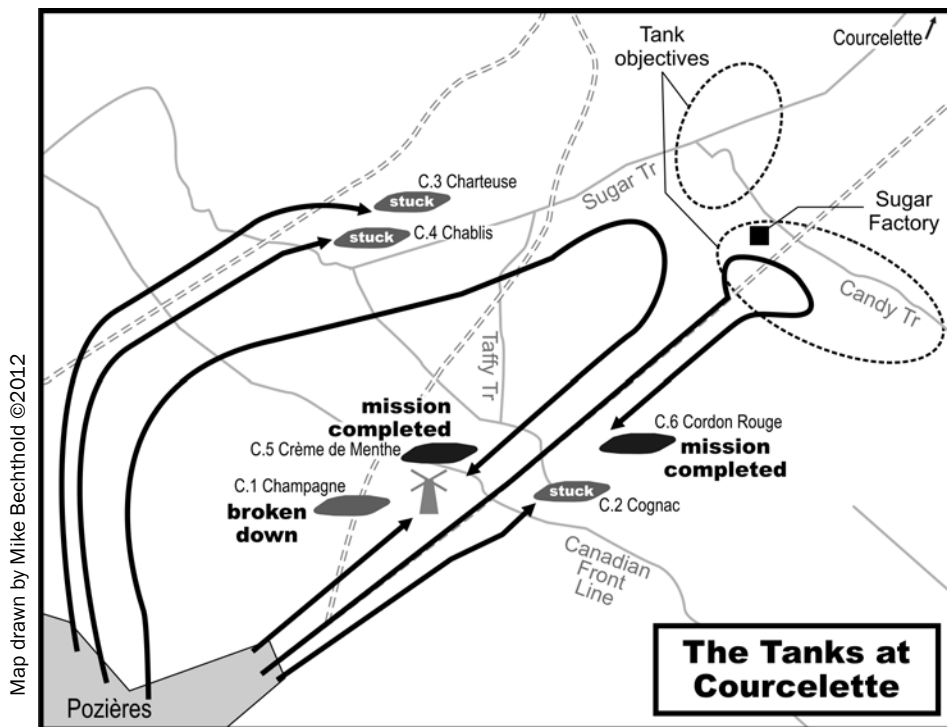
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Canadian War Museum 19920085-478

Top right: Crème de Menthe (C.5), surrounded in a cloud of smoke from its engine, crosses the battlefield.

Bottom right: A close-up of the sponson on the side of the hull of a Mark I tank (male). A German shell has penetrated the armour on the shield of the 6-pounder gun likely putting it out of action.



Map drawn by Mike Bechthold ©2012

Campbell's *Band of Brigands* and Trevor Pidgeon's *The Tanks at Flers*, two recent and detailed accounts, supply context that helps clarify the references to the tanks in the Canadian war diaries.

Following a sharp bombardment at 0620 hours, the Canadians went "over the top" and advanced across the cratered moonscape in front of Courcelette towards the German lines. Gunner Eric Blake, a tank gunner at Flers-Courcelette, vividly recalled the terrain confronting attacking troops of the Fourth and Reserve armies on 15 September 1916.

You never saw such a sight as the countryside is now — one mass of shell-holes everywhere you look. The woods are blown to pieces, and only a few branchless stumps remain of what once were fine thickets. As for the towns and villages, they simply don't exist now... [there was] practically not a brick standing on another.⁴⁷

Canadian infantry and tanks laboriously advanced over the pock-marked ground as quick as they

could to "hug" the creeping barrage and overwhelm German soldiers before they could man their posts. This unforgiving terrain presented serious obstacles to the ungainly tanks as they slowly crawled over the heavily-cratered fields.

The 28th Battalion of the 6th CIB formed the left flank of the 2nd Canadian Division and advanced with three tanks towards Sugar Trench. The battalion's war diary commented that two tanks got stuck shortly after the advance began. Both of these tanks were unable to advance past the Canadian front lines. It appears that the rear steering mechanism on tank C.3, "Chartreuse," was hit by shrapnel, and the tank eventually drove into a shell hole from which it could not be recovered. Similarly, C.4, "Chablis," experienced trouble when its tracks became loose and fell off the caterpillar mechanism.⁴⁸ Some troops were detached to try and get the tanks moving again, but "the attempt was futile."⁴⁹ The 28th Battalion lost sight of the third tank, but nevertheless captured its final objectives by 0820 hours. Despite the brisk advance, the battalion

suffered terrible casualties. It lost ten officers and three hundred other ranks during the attack, roughly 30 percent of the 1,029 casualties of all ranks suffered by the 6th CIB during the assault, and a testament to the ferocity of the 45th Reserve Division's defence of Courcelette.⁵⁰

Also in the 6th CIB attack were the troops of the 31st Battalion who were assigned "mopping up" duty during the attack. Its platoons were dispersed amongst the other battalions of the brigade to consolidate captured trenches and eliminate any German strongpoints bypassed by the initial assault.⁵¹ One of the members of the unit, Private Donald Fraser, wrote vividly of the attack, in which members of the 6th CIB became quickly pinned-down in no-man's-land by intense German machine gun and rifle fire. Several of the platoon commanders who attempted to lead their men forward were immediately shot down as they raised themselves above the lips of craters. Fraser wrote that "the assault was a failure and now we were at the mercy of the enemy." When the men appeared to give up hope, the third tank unseen by the 28th Battalion lumbered into view and immediately began firing on German positions. It was tank C.5, "Crème de Menthe,"⁵² commanded by Captain Arthur Inglis, a former infantry officer detached from the Gloucestershire Regiment for service in the Heavy Branch, commanding No.1 Section of "C" Company.⁵³ Fraser wrote that Crème de Menthe immediately "gave new life and vigour to our men," who were inspired to renew the attack and follow Inglis' tank "as if to be in on the kill."⁵⁴ Inspired by the tanks, the infantry advanced and captured the German trench. Private Joseph Thompson wrote that upon seeing tanks grind over the German positions, "the men thought that this was such fun and quick work that they asked for permission to go



Above: The ruins of the Sugar Factory photographed shortly after the battle.

Right: "The Capture of the Sugar Refinery at Courcelette by the Canadians on September 15, 1916" by Fortunino Matania. This dramatic re-creation of the Canadian action to capture the Sugar Factory faithfully captures the actual battlefield - compare to the photo above.

Below right: A close-up of an ad-hoc bunker created by the Germans out of the structure of the original Sugar Factory.

Canadian War Museum 19920044-762



Canadian War Museum 19920085-832



ahead" in the next phase of the attack, "which was readily given."⁵⁵

Despite the crucial impetus generated by the timely appearance of *Crème de Menthe*, the 31st Battalion suffered dreadful losses on 15 September. Less than half the battalion, 318 out of 722 men, answered roll call after the attack.⁵⁶ The 6th CIB narrative concurred with Fraser's evaluation of the tank's importance, stating that *Crème de Menthe* "proved of much assistance in enabling our troops to advance towards their objective."⁵⁷ Following the infantry's capture of their objectives, *Crème de Menthe* returned to its start line for refuelling and the two ditched tanks were salvaged.⁵⁸ Inglis was awarded the Distinguished Service Order (DSO) for "reaching his objective and manoeuvring throughout the whole operation."⁵⁹



Canadian troops cheer Cordon Rouge (C.6) after the battle. The horseshoe affixed to the front of the tank provided the good luck needed for the tank to complete its mission of 15 September. Cordon Rouge supported the attack by the 4th Canadian Infantry Brigade and was one of only two tanks supporting the Canadians to avoid getting stuck or knocked out.

Sources from the 4th CIB do not provide as much detail on the performance of tanks, but a range of evidence indicates that its experience on 15 September closely resembled that of the 6th CIB. The 21st Battalion formed the left flank of the 4th CIB and was tasked with assaulting the Sugar Factory. In the words of a brigade report, the refinery “was known to be a strong position and it was expected would be defended with determination.”⁶⁰

The battalion began its attack at zero hour and swiftly captured the first German line. The creeping barrage was effective: “no difficulty was experienced taking [the] first line trench as our Artillery had demoralized what occupants remained there.”⁶¹ As the battalion continued its advance it began to take heavy casualties from machine gun positions in the Sugar Factory and the surrounding trenches. One of the three tanks assigned to the 4th CIB was seen by troops of the 21st

Battalion moving slowly towards Sugar Trench, but the other two tanks were out of sight. In accordance with the general order to maintain the tempo of the advance, the battalion began its assault on the Sugar Factory without waiting for the ungainly tanks to appear, and eliminated all opposition after a sharp fight. The battalion captured its final objective around 0703 hours and took 125 prisoners.⁶² The war diary noted that “the battalion advanced well ahead of the Tanks and the final objective was gained before tanks overtook them.”⁶³ The stiff German resistance took its toll on the 21st, which could only muster 200 all ranks and four machine guns to defend its newly won positions against counterattack.⁶⁴

The 21st Battalion attack is instructive in the overall experience of the 4th CIB on the morning of 15 September. The other battalions in the brigade convey almost no information on the role of the tanks during the initial assault. This suggests

that the infantry battalions either did not appreciate any assistance rendered by the tanks, or that there were not enough tanks operating in their sectors to warrant mention. Nevertheless, the brigade war diary commented vaguely that on the morning of 15 September the tanks “assisted in taking of some enemy positions.”⁶⁵ Similar to the events in the 6th CIB sector, two out of the three tanks assigned to the 4th CIB failed to cross the Canadian front line. C.1, “Champagne,” became stuck in the mud and its tracks turned without any traction, forcing the crew to eventually abandon it. C.2, “Cognac,” was lost after becoming stuck in a shell hole.⁶⁶ The remaining tank, Second Lieutenant John Allan’s C.6, “Cordon Rouge,” straddled a German trench and poured murderous enfilade fire down both lengths of the line.⁶⁷ Cordon Rouge’s valuable assistance in attacking the German trench brought the 4th CIB war diary to comment that the

tanks “proved their value” in their first action.⁶⁸ Allan was awarded the Military Cross (MC).⁶⁹

Following the attacks of the 6th and 4th CIBs, the tanks’ role in the battle for Courcelette was over. Buoyed by the initial successes, Major-General Turner committed the 5th CIB for an assault on Courcelette itself in the late afternoon of 15 September. The 22nd and 25th Battalions attacked at 1815 hours without tank support and captured the village by 1900 hours. The capture of Courcelette did not end the battle, for the 22nd had to repel 13 counterattacks over the next two days.⁷⁰

One common feature of the reports is the shock the tanks had on German defenders. Fierce debates raged immediately after the battle over the supposed loss of the tanks’ novelty value due to a “premature disclosure” of their existence at Flers-Courcelette.⁷¹ On the other hand, recent research by Christy Campbell suggests that the Germans were aware that some kind of new armoured fighting vehicle was about to debut on the battlefield on the basis of espionage reports from Britain.⁷²

The sense of many Canadian reports is that the enemy infantry received a rude shock on the morning of 15 September. Captain Macintyre recorded that several Germans “surrendered on [the tanks’] approach and one remarked that it was not war but ‘savage butchery.’”⁷³ Many of the Germans were surprised at the tanks’ resistance to machine gun fire, which would not stop the machines unless hit by armour-piercing SmK bullets fired by Mauser rifles.⁷⁴ Private Fraser wrote with a certain degree of satisfaction that his erstwhile German tormentors “got out of their trench and were beating it back over the open, terrified at the approach of the tank.”⁷⁵ This severe blow to German morale in front of Courcelette was evidently as much appreciated by

the infantry as any physical support offered by the tanks. Despite the fact that only two of the six tanks in action with the 2nd Canadian Division actually engaged German troops, the 4th CIB narrative commented that “the advance of this new offensive weapon had much to do with the success of the operation.”⁷⁶

The Canadian high command was not so enthusiastic. The fact that only one third of the tanks committed to the attack on Courcelette were able to render assistance indicated that tanks were not a decisive weapon. The tanks’ performance essentially validated the concerns of prudent battalion and brigade commanders who viewed the new weapons with caution. Lieutenant-General Byng concluded that “tanks are a useful accessory to the infantry, but nothing more.”⁷⁷

Byng’s remarks offer probably the most balanced assessment of the tanks’ capabilities after their first test of combat. It is important to keep in mind that throughout the planning process, tanks were only supposed to be adjuncts to the infantry assault. Indeed, the fact that units were ordered not to wait for tanks in the event they were delayed or bogged down showed that commanding officers anticipated problems with the new weapons in their first field test. In the Canadian experience, tanks performed exactly as expected: not depended upon for success but able to assist the infantry wherever they could.

The British XV Corps Attack

The experience of British XV Corps’ at Flers closely reflected that of the Canadians at Courcelette. Both corps saw a handful of tanks advance in the support of infantry and deliver assistance at critical junctures against stiff German resistance. The glowing praise of the tanks’ performance by Canadian troops who saw them in

action was mirrored by bubbling enthusiasm from British and New Zealand troops. The British XV Corps attack similarly showed that even if most of the tanks failed to advance across no-man’s-land, the remaining few were able to intervene decisively in places where the infantry had been stalled by tenacious resistance.

Because of delays in the shipment of essential equipment from Britain and mechanical failures, only 26 of the 42 tanks assigned to Fourth Army were available on the morning of 15 September.⁷⁸ In contrast to the 900 metre advance of the Canadian Corps to its objectives, most units of the Fourth Army had to advance more than 3,500 metres to capture their first-day objectives, Gueudecourt, Lesboeuufs and Morval.⁷⁹ General Rawlinson ordered the tanks to advance approximately five minutes ahead of the infantry in order to soften up German defences. This, as noted above, required the artillery to leave 90-metre-wide gaps in the creeping barrage for each section of three or four tanks.⁸⁰ In the event that the tanks were destroyed or ditched, these gaps in the bombardment would leave stretches of German trench untouched by the barrage, making the attacking infantry vulnerable. Nevertheless, the infantry were directed “on no account” to wait for the tanks if they lagged behind or were knocked out.⁸¹

The two units in the Fourth Army that had the greatest success with the tanks were Major-General Sydney Lawford’s 41st British and Major-General Andrew Russell’s New Zealand divisions of the XV British Corps. They attacked beside each other in the drive towards Flers and Gueudecourt,⁸² and their experience with the tanks was comparable to that Canadian 2nd Division.

The New Zealanders, assigned four tanks, went over the top at 0620 hours and immediately came under intense German fire. The varied

effectiveness of the creeping barrage meant that some battalions were confronted with uncut wire directly in their path, while others suffered dreadfully from enfilade fire on their flanks. The 3rd Battalion of the New Zealand Rifle Brigade (NZRB) ran into stout German resistance at Flers Trench, immediately west of

the village. It was unable to advance into the storm of German fire and decided to wait for tank assistance. The brigade's history notes that at 1030 hours, two tanks — Lieutenant Herbert Pearsall's D.11 and Captain Graeme Nixon's D.12⁸³ — arrived to assist the beleaguered infantry. The left-hand tank, D.11, provided flank

support while D.12 "proceeded to deal with the wire and machine-guns holding up our men."⁸⁴ The 3rd Battalion was then able to surmount German opposition and capture Flers Trench. The New Zealanders fell short of the ultimate objective of Gueudecourt, but were able to advance to the third objective of Abbey Road Trench by 1100 hours.⁸⁵ Their roughly 2,230 metre push was one of the farthest advances of any division on 15 September.⁸⁶



Left: Soldiers of the New Zealand Division stand in a front line trench near Flers, 15 September 1916.

Below: Tank D.17 (Dinnaken) supported the British attack on Flers. It advanced up the main street of the village and materially assisted its capture by directly engaging numerous German machine gun positions. After its armament was disabled, the tank was able to make its way back to safety. Here, a group of British soldiers pose with D.17 following the battle.





Another view of D.17 following the battle. The tank remained in location here for several days before being recovered. It was used as a brigade headquarters during this period. Here the brigadier (with cane) and his staff pose for a photo during a lull in the battle.

D.11 and D.12 were the only tanks able to help the New Zealanders on 15 September, the other two being disabled by German fire.⁸⁷ The actions of these two tanks nevertheless received glowing praise from most of the New Zealand regimental histories of the battle. The NZRB history by Lieutenant-Colonel W.S. Austin states that the tanks "came well up to expectations."⁸⁸ Despite the heavy casualties suffered by the Otago Regiment's 2nd Battalion, the regimental history by Lieutenant Arthur Byrne concludes that the tanks "did actually perform extraordinarily effective work" by "breathing death and destruction."⁸⁹

Attacking on the right flank of the New Zealanders on 15 September was the British 41st Division. It was tasked with capturing the village of Flers and pushing on to Gueudecourt by the end of the day. In the early stages of the 15 September attacks, the 15th Battalion of the Hampshire Regiment (15/Hampshire) of the British 122nd Infantry Brigade noted

in its war diary that the tanks' slow speed meant they originally "did not do much except perhaps cause alarm in the second enemy line."⁹⁰ In what is perhaps the most notable tank action of the day, however, Second Lieutenant Stuart Hastie's D.17, "Dinnaken," advanced with a group of 122nd Brigade troops up the main street of Flers.⁹¹ The 15/Hampshire war diary states that at this time "one of the armoured cars [*sic*] did most useful work smashing in the enemy's Strong Points and... also gave the men great confidence."⁹² (Hastie was awarded the MC for the action.⁹³)

The advance began to bog down shortly thereafter. According to the 15/Hampshire war diary, beyond Flers "organized attack had ceased, owing to formations having been broken up, and to heavy casualties among the officers."⁹⁴ The battalion alone suffered 292 casualties of all ranks on 15 September.⁹⁵ These were comparable to the losses of the heavily engaged Canadian and New

Zealand battalions, evidence of the ferocity of the action all across the front on 15 September. Ultimately, Rawlinson postponed future attacks due to the stiff German resistance and heavy casualties. The most distant British first day objective, Gueudecourt, would not in fact be taken until 26 September.⁹⁶

Reports from units of the British XV Corps about the demoralizing effects of tanks upon the enemy echo those from the Canadians to the west. According to the history of New Zealand's Otago Regiment the tanks instilled "fear of a kind hitherto unknown into those of the enemy who encountered it."⁹⁷ Similarly, the 15/Hampshire war diary commented that the tanks' assault on German positions "without doubt" demoralized whatever soldiers attempted to resist the onslaught.⁹⁸ Gunner Eric Blake remarked that the tanks' "moral effect on Fritz the first time we went into action was undoubted."⁹⁹ Whether these comments may be

understood as accurate reports of the German reaction, or the headiness of victorious troops who had survived ferocious combat is difficult to say. Still, the consistency of accounts from Canadian, British and New Zealand sources suggest that the tanks' debut administered a severe shock to the German defenders.

Aftermath

The battle largely bogged down after 15 September. Heavy rains began to deluge the battlefield and troops found it increasingly difficult to move up food and supplies, let alone attack, in the flooded mire.¹⁰⁰ Uncoordinated assaults continued, but the offensive at Flers-Courcelette did not reach beyond the first day's objectives.¹⁰¹ Haig's desire to smash German lines and let the cavalry wreak havoc in the enemy's rear remained unrealized. The costs of

the battle were heavy. The Canadians suffered 7,230 casualties in the week-long battle.¹⁰² The New Zealanders lost 100 officers and 3,000 enlisted men by 19 September.¹⁰³ Precise German casualties are unknown but 4,000 prisoners were captured over the course of the battle.¹⁰⁴ Flers-Courcelette became just one more grinding advance in the attritional abyss of the Somme.

Nevertheless, Haig appeared pleased with the results. The capture of Courcelette, Martinpuich and Flers on 15 September led him to write that the battle witnessed "more considerable" gains than any operation "since the commencement of the offensive."¹⁰⁵ He was especially pleased with the performance of the tanks. He remarked that "wherever the tanks advanced we took our objectives, and wherever they did not advance we failed."¹⁰⁶ This statement is rather general and not

strictly true, for British infantry of the 47th Division captured High Wood without tank support. However, his remarks are useful in conveying his enthusiasm for the tanks. On 17 September Haig wrote that he "decided to ask the home authorities to send us out as quickly as many [tanks] as possible."¹⁰⁷

Not everyone agreed that the tanks were a success on 15 September. The fact that only two of the six tanks assigned to the 2nd Canadian Division, and two out of the four detailed to assist the New Zealand Division, were able to cross the start line indicates that significant improvements in tactics and technology would be required for the tanks to become truly effective. Years later Winston Churchill complained bitterly of the lost novelty of the tanks "for the mere petty purpose of taking a few ruined villages."¹⁰⁸ Lieutenant-Colonel

Courcelette after the battle.



Swinton wrote acidly after the war that “we threw away a surprise... in the vain hope of resuscitating the momentum of an offensive which had died away.”¹⁰⁹ Nevertheless, Swinton added that the tanks “fully justified themselves” in the battle.¹¹⁰ Haig was undeterred by the loss of surprise and ordered a thousand more machines for immediate production.¹¹¹

Following the action at Flers-Courcelette, the fighting on the Somme degenerated into a series of localized attacks that became increasingly costly in men and material. When the bloody offensive finally drew to a close on 19 November, the BEF had sustained approximately 432,000 casualties for the gain of only a few kilometres at the deepest penetration of German lines.¹¹² The Canadians would not advance much more than they did on 15 September. They lost 16,800 more men on the Somme in a series of attacks against German trenches along the Ancre Heights.¹¹³ The five-month struggle was known to the Germans as a *Materialschlacht*, or “battle of material,” a term which reflects the brutally attritional nature of the Great War as it progressed into its fourth year.¹¹⁴

Ultimately, the debut of tanks at Flers-Courcelette demonstrated their tactical capabilities. They did not live up to the high hopes of Swinton and Churchill, not least because their deployment in limited numbers did not afford the same shock as a massed assault. Nevertheless, they did meet expectations as a tactical weapon in support of the infantry. The infantry were told not to rely upon tanks, so were not all that surprised when they broke down. Still, when tanks were able to render assistance, as with Crème de Menthe, they often did so in the intended manner: helping beleaguered infantry overcome German strongpoints in order to capture an objective. Byng’s assessment that they were a “useful accessory to the infantry but nothing more” aptly captures the tanks’

capabilities during the 15 September attack. Tanks would be deployed in small, isolated numbers throughout the rest of the Somme offensive, but their participation was nowhere as noticeable or celebrated as their debut at Flers-Courcelette.

Notes

1. Tim Cook, *At the Sharp End: Canadians Fighting the Great War, 1914-1916, Volume One* (Toronto: Viking Canada, 2007), p.463.
2. Wilfrid Miles, *Military Operations France and Belgium 1916: 2nd July 1916 to the End of the Battles of the Somme* (London: Macmillan and Co., Limited, 1938), p.365.
3. J.F.C. Fuller, *Tanks in the Great War, 1914-1918* (New York: E.P. Dutton & Co., 1920), p.56.
4. *Ibid.*, p.59.
5. G.W.L. Nicholson, *Canadian Expeditionary Force 1914-1919* (Ottawa: Queen’s Printer, 1962), pp.169-170.
6. War Diary (WD), 27th Battalion Canadian Expeditionary Force (CEF), September 1916. Appendix E, “Instructions with regard to Operations Orders No. 80,” Page 1. Library and Archives Canada (LAC) RG 9, III-D-3, volume 4935, reel T-10738, file 422.
7. One of the earliest and most ardent advocates for tank warfare, Lieutenant-Colonel Ernest Swinton, drafted a number of memoranda throughout 1915 and 1916 which offer the closest approximation to early tank doctrine. In February 1916, for example, Swinton recommended that tanks’ primary role should be infantry support through crushing barbed wire and attacking German strongpoints, and should be placed under infantry command during the attack. Indeed, he wrote that tanks should be considered “purely auxiliary to the infantry” during the initial assault. For more information, see Lieutenant-Colonel E.D. Swinton, “Notes on the Employment of Tanks,” in Miles, Appendix 18, pp.58-59.
8. Martin Gilbert, *The Battle of the Somme* (Toronto: McClelland & Stewart Ltd, 2006), p.15.
9. Roger Chickering, *Imperial Germany and the Great War, 1914-1918, 2nd ed.* (Cambridge: Cambridge University Press, 2004), p.67.
10. Robin Prior and Trevor Wilson, *The Somme* (New Haven: Yale University Press, 2005), pp.25-9.
11. *Ibid.*, p.31.
12. Cook, *At the Sharp End*, p.415.
13. *Ibid.*, p.416.
14. Miles, Sketch 37.
15. Nicholson, *Canadian Expeditionary Force*, p.167.
16. Prior and Wilson, *The Somme*, p.218.
17. Miles, Sketch 37.
18. Trevor Pidgeon, *The Tanks at Flers: An Account of the First Use of Tanks in War at the Battle of Flers-Courcelette, The Somme, September 1916* (Cobham: Fairmile Books, 1995), p.21.
19. J.P. Harris, *Men, ideas, tanks: British military thought and armoured forces, 1903-1939* (Manchester: Manchester University Press, 1995), p.31.
20. Fuller, *Tanks in the Great War, 1914-1918*, p.49.
21. Miles, p.233.
22. *Ibid.*, p.249.
23. Winston Churchill, “Memoranda on Variants of the Offensive, 7th January 1916,” in *Ibid.*, appendix 17, p.48.
24. *Ibid.*, p.238.
25. E.D. Swinton, *Eyewitness* (Garden City, N.Y.: Doubleday, Doran & Company Inc., 1933), p.108
26. Diary entry dated 11 August 1916, in Douglas Haig, *War Diaries and Letters, 1914-1918*, ed. Gary Sheffield and John Bourne. (London: Weidenfeld & Nicholson, 2005), p.217.
27. Quoted in Miles, p.235.
28. Christy Campbell, *Band of Brigands: The First Men in Tanks* (London: Harper Press, 2007), p.160.
29. Miles, p.242.
30. *Ibid.*, p.297
31. *Ibid.*, p.295.
32. Major-General A.A. Montgomery, “Instructions for the Employment of “Tanks,”” dated 11 September 1916, in Pidgeon, *The Tanks at Flers*, p.56.
33. Clough Williams-Ellis, *The Tank Corps* (New York: George H. Doran Company, 1919), p.61.
34. Miles, pp.294-295.
35. WD, 12th Battalion of the East Surrey Regiment, September 1916. Lieutenant-Colonel H.J. Walmisley-Dresser, “Battalion Orders,” Appendix. The United Kingdom National Archives, War Office (TNA WO) 95/2634 image 711.
36. *Ibid.*
37. Pidgeon, *The Tanks at Flers*, pp.45-6.
38. WD, 27th Battalion CEF, September 1916, appendix E, “Instructions with regard to Operations Orders No. 80,” P. 1. Library and Archives Canada [LAC] RG 9, III-D-3, volume 4935, reel T-10738, file 422.
39. Lieutenant-Colonel D.E. Macintyre, “War Diary.” p.207, 13 September 1916, LAC MG 30 E241 volume 1.
40. Agar Adamson, *Letters of Agar Adamson, 1914 to 1919*, edited by N.M. Christie (Nepean: CEF Books, 1997), p.219.
41. Jack O’Brien, *Into the Jaws of Death* (Teddington: The Echo Library, 2007), p.89.
42. See Nicholson, *Canadian Expeditionary Force*, Map 6.
43. *Ibid.*
44. *Ibid.*
45. Nicholson, *Canadian Expeditionary Force*, p.169. Note: Only six tanks were to be deployed into combat, with one in reserve. However, this reserve tank was not committed to the battle, so for

- all intents and purposes the Canadians worked with six tanks on 15 September.
46. WD, 27th Battalion CEF, September 1916. Appendix G, "Operations Order 80," p.3, LAC RG 9, III-D-3, volume 4935, reel T-10738, file 422.
 47. Gunner Ernest P. Blake, Letter dated 28 September 1916, in *Letters from the Front: Being a Record of the Part Played by Officers of the Bank in the Great War, 1918-1919*, edited by Charles Lyons Foster and William Smith Duthie (Toronto: Canadian Bank of Commerce, 1920), p.159.
 48. Pidgeon, *The Tanks at Flers*, p.130. Tank commanders typically gave their tanks names which started with the initial letter of the company. Thus, "C" Company tanks were termed "Crème de Menthe," "Cordon Rouge" and "Champagne." "C" Company evidently consulted their liquor collection when conjuring names for their machines. For more information, see Campbell, *Band of Brigands*, p.169.
 49. WD, 28th Battalion CEF, September 1916., Operation Report, p.2, LAC RG 9, III-D-3, volume 4935, reel T-10739-10740, file 425.
 50. *Ibid.*, p.5; WD, 6th Canadian Infantry Brigade (CIB), September 1916, p.11, LAC RG 9, III-D-3, volume 4888, reel T-10684-10685, files 261-262.
 51. Reginald H. Roy, ed., *The Journal of Private Fraser* (Victoria: Sono Nis Press, 1985), p.200.
 52. Campbell, *Band of Brigands*, p.199.
 53. Pidgeon, *The Tanks at Flers*, pp.133, 210.
 54. Roy, ed., *The Journal of Private Fraser*, pp.207-208.
 55. Private Joseph Thompson Letter in Foster and Duthie, eds., *Letters from the Front*, p.187.
 56. Major Horace C. Singer, *History of the 31st Canadian Infantry Battalion C.E.F.* Darrell Knight, ed. (Calgary: Detselig Enterprises Ltd., 2006), p.167.
 57. WD, 6th CIB, September 1916, p.11, LAC RG 9, III-D-3, volume 4888, reel T-10684-10685, files 261-262.
 58. *Ibid.*
 59. Pidgeon, *The Tanks at Flers*, p.133.
 60. WD, 4th CIB, September 1916, "Operations of 4th Canadian Infantry Brigade at the Somme, September 10th to 17th 1916," p.2, LAC RG 9, III-D-3, volume 4880, reel T-10677, file 235.
 61. WD, 21st Battalion CEF, September 1916, p.7, LAC RG 9, III-D-3, volume 4930, reel T-10731, file 410.
 62. *Ibid.*, p.8.
 63. *Ibid.*, p.11.
 64. WD, 21st Battalion CEF, September 1916, "Documents belonging to the late Lieut-Colonel Elmer Jones, O.C. 21st Battalion," p.7, LAC RG 9, III-D-3, volume 4930, reel T-10731, file 410.
 65. WD, 4th CIB, September 1916, "Operations of 4th Canadian Infantry Brigade at the Somme, September 10th to 17th 1916," p.6, LAC RG 9, III-D-3, volume 4880, reel T-10677, file 235.
 66. Pidgeon, *The Tanks at Flers*, p.128.
 67. Campbell, *Band of Brigands*, p.199 and WD, 4th CIB, September 1916. "Operations of 4th Canadian Infantry Brigade at the Somme, September 10th to 17th 1916," p.11, LAC RG 9, III-D-3, volume 4880, reel T-10677, file 235.
 68. *Ibid.*
 69. Pidgeon, *The Tanks at Flers*, p.130.
 70. WD, 22nd Bn CEF, September 1916, p.4, LAC RG 9, III-D-3, volume 4931, reel T-10732-10733, file 413.
 71. Swinton, *Eyewitness*, p.108.
 72. Campbell, *Band of Brigands*, p.232.
 73. Lieutenant-Colonel D.E. Macintyre, "War Diary," p.209, 13 September 1916, LAC MG 30 E241 volume 1.
 74. WD, 4th CIB, September 1916, "Operations of 4th Canadian Infantry Brigade at the Somme, September 10th to 17th 1916," p.11, LAC RG 9, III-D-3, Volume 4880, reel T-10677, file 235.
 75. Roy, ed., *Journal of Private Fraser*, p.208.
 76. WD, 4th CIB, September 1916. "Operations of 4th Canadian Infantry Brigade at the Somme, September 10th to 17th 1916," p.12, LAC RG 9, III-D-3, volume 4880, reel T-10677, file 235.
 77. Nicholson, *Canadian Expeditionary Force*, p.170.
 78. Fuller, *Tanks in the Great War, 1914-1918*, p.55.
 79. Miles, Sketch 37.
 80. Major-General A. A. Montgomery, "Fourth Army Instructions," dated 11 September 1916, in *Military Operations France and Belgium 1916: 2nd July 1916 to the End of the Battles of the Somme*, Appendix 20, p.66.
 81. *Ibid.*, p.67.
 82. Miles, Sketch 36.
 83. Campbell, *Band of Brigands*, p.188 and Miles, p.325
 84. Lieutenant-Colonel W.S. Austin, *Official History of the New Zealand Rifle Brigade* (Wellington: L.T. Watkins Ltd., 1924), p.127.
 85. *Ibid.*, p.129.
 86. Miles, Sketch 37.
 87. Campbell, *Band of Brigands*, p.188.
 88. Austin, *Official History of the New Zealand Rifle Brigade*, p.119.
 89. Lieutenant A.E. Byrne, *Official History of the Otago Regiment, N.Z.E.F. in the Great War 1914-1918* (Dunedin: J. Wilkie & Co. Ltd), p.116.
 90. WD, 15th Battalion of the Hampshire Regiment (15/Hampshire), September 1916, p.2, TNA WO 95/2634, image 714.
 91. Campbell, *Band of Brigands*, 192. Hastie's action received considerable press coverage at the time and is extensively discussed in most secondary works on Flers-Courcelette. See *ibid.* and Pidgeon, *The Tanks at Flers*, pp.169-171.
 92. WD, 15/Hampshire, September 1916, p.2, TNA WO 95/2634, image 714.
 93. Pidgeon, *The Tanks at Flers*, p.170.
 94. WD, 15/Hampshire, September 1916, p.2, TNA WO 95/2634, image 714.
 95. *Ibid.*, p.4.
 96. Miles, 385.
 97. Byrne, *Official History of the Otago Regiment*, p.116.
 98. WD, 15/Hampshire, September 1916, p.2, TNA WO 95/2634, image 714.
 99. Gunner Ernest P. Blake, Letter dated 28 September 1916, in Foster and Duthie, eds., *Letters from the Front*, p.158.
 100. Miles, p.349.
 101. *Ibid.*
 102. Nicholson, *Canadian Expeditionary Force*, p.172.
 103. Colonel H. Stewart, *The New Zealand Division 1916-1919: A Popular History Based on Official Records* (Auckland: Whitcombe and Tombs Limited, 1921), p.92.
 104. Gilbert, *The Battle of the Somme*, p.190.
 105. Douglas Haig, *Sir Douglas Haig's Dispatches*, edited by Lieutenant-Colonel J.H. Boraston (London: J.M. Dent & Sons Ltd., 1920), p.42.
 106. Sir Albert Stern, *Tanks 1914-1918: The Logbook of a Pioneer* (London: Hodder and Stoughton, 1919), p.96.
 107. Diary Entry Dated 17 September 1916, in Entry dated 11 August 1916, in Haig, *War Diaries and Letters, 1914-1918*, p.231.
 108. Winston Churchill, *The World Crisis: 1911-1918* (New York: Free Press, 2005), p.315.
 109. Swinton, *Eyewitness*, p.251.
 110. *Ibid.*, p.241.
 111. *Ibid.*, p.246.
 112. Prior and Wilson, *The Somme*, p.301.
 113. Nicholson, *Canadian Expeditionary Force*, p.198.
 114. Chickering, *Imperial Germany and the Great War*, 2nd ed., p.70.

Andrew McEwen received his Bachelor of Arts (Honours) from Queen's University in 2009. Following a Cleghorn Battlefield Study Tour that same summer, he began his Master's studies at the University of Waterloo under Dr. Geoff Hayes. This paper forms the first chapter of his major research paper, which examined tanks in action in 1916 and 1917. In September 2010 he began his PhD at the University of Calgary under Dr. Patrick Brennan. He wishes to thank Dr. Geoff Hayes and Professor Terry Copp for their advice and support in the original drafting of this paper.