

Canadian Victory on Vimy Ridge: The Creation of the Creeping Barrage and the Defining Moment of a Nation

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ABSTRACT

The strategic need to capture Hill 145 was immense between 1916-1917. Both the French and British had failed before, and the task was then assigned to the Canadians. The effort took months of planning, weeks of strict hands-on preparations combined with a new type of artillery warfare, and paved the way for a Canadian victory. The battle of Vimy Ridge was a strategic victory for the allies during the First World War but in terms of overall impact, the victory greatly impacted the future of all Canadians.

(Keywords: artillery, Canadians, Canada, First World War, WWI, Vimy Ridge, military history, military science, tactical planning, flash spotting, sound ranging, creeping barrage)

INTRODUCTION

The battle for Hill 145, otherwise known as Vimy Ridge, was fought by the Canadians against the Germans between April 9 and April 12, 1917. The battle of Vimy Ridge was crucial to the war effort as it would take away the commanding view of the allied lines which the Germans possessed. The seven-kilometer-long ridge in northern France gave the Germans an advantage which had brought the Allied advance to a halt. Prior to the battle, the Canadians prepared for weeks. The Germans were already entrenched along the ridge with fortified defenses which have been previously battle tested by French and British troops.

The First World War, as a whole, was a new take on old fighting traditions. Rather than standing in line and shooting rally style, the strategic use of trenches made it difficult for both sides to flush out troops in order to advance on the front. With this new style of warfare came a whole new array of

weaponry and weapons tactics that intended to overcome the new struggles that came with trench warfare. German artillery was seen as the greatest danger faced by the incoming Canadian troops (Finan and Hurley, 1997). Because of the effective use of German artillery, the Canadian leaders were forced to develop new techniques that allowed for easier targeting and destroying of German artillery. Despite overwhelming odds, the Canadians emerged victorious over the Germans and captured the ridge for the Allies. The Canadian victory at Vimy Ridge on April 12, 1917, can be seen as the defining moment that separates Canada from Britain.

Vimy Ridge was the first battle that was won solely by Canadians without the aid of British leadership or troops. Sitting on the ridge today is the Vimy Ridge Memorial which was finished in the 1930s and holds the names of 11,285 Canadian soldiers that were not able to make it home after the war. Through the Canadians effective use of artillery, the German trenches and front lines were beaten and broken down, which gave the Canadians the ability to overrun and achieve the battles' goal of capturing and holding the ridge.

Overview of the Battle

Capturing Vimy Ridge was crucial to the Allies as it gave the German Army the advantage of having the higher ground. Leading up to the beginning of April, 1917 the French military had made three large-scale attempts to capture the ridge. Authors J.S. Finan and W.J. Hurley from the Royal Military College of Canada (RMC) wrote that, "Between 1914-1916, the French lost 200,000 men in three attempts to take the ridge" (Finan and Hurley, 1997). This made the attack by the Canadians more difficult and more

important, as well as creating an unsettling physiological effect for the soldiers. The previous attacks by the French allowed the Germans to secure their positions on the ridge as well as adapt to the particular fighting strategies needed to keep the ridge. Despite heavy French losses during these three attempts to capture the Ridge, the Canadians accepted the mission. In order to be most effective against the Germans, the Canadians combined their four divisions into one large fighting force. This was the first time that all four Canadian divisions joined together in order to have the numbers to secure a victory.

Canadian Weaponry

The Canadian military during World War I made the decision to attempt to arm their soldiers with domestic weapons where possible. This was as much a political decision as it was economical for the military. The standard issue rifle was the Ross Rifle which was used in combat from 1914 to 1916 before being replaced by the British Lee Enfield Mark (mk) III (Fitzsimons, 1973). The Ross rifle, despite being engineered in Canada was not combat worthy, the rifle would often jam and required too much maintenance in the field. The Lee Enfield mk III was better for trench warfare as it had a high fire rate, did not jam as frequently under rapid-fire shooting, and was easier for hand-to-hand combat with an easily detachable bayonet.

Colt Canada produced the standard issue heavy machine gun for the Canadian Army, which like the Ross rifle, was replaced in 1916 by the British Vickers machine gun which was heavier and more reliable under rapid fire conditions (Finan and Hurley, 1997). Within the trenches, Canadians were not able to use their rifles for long periods of time due to their size and weight, which led to the need for handheld weapons. Canadians have issued trench clubs which resembled a medieval mace, soldiers often resorted to hand-to-hand combat wielding only their bayonets (Finan and Hurley, 1997). One of the only weapons that was not produced by Canada and later replaced by a British weapon was the 18-pound field artillery gun which over the course of the war fired over 100 million rounds (Finan and Hurley, 1997). With regards to the Battle of Vimy Ridge, the British made Lee Enfield, Vickers, and most importantly the 18-pound Artillery pieces were utilized, playing an instrumental role in the Canadian victory.

Canadians and Vimy Ridge

For the Canadians, preparation was key, and prior to the battle they dug numerous underground tunnels. These tunnels functioned in various ways; first, the tunnels were used as an attempt to transport troops and supplies between the front-line trenches and medic stations. The tunnels were filled with rooms that functioned as sleeping quarters, storage rooms for ammunition and food, as well as planning rooms for the officer staff. M.S. Rosenbaum, a professor of geology who studied the geological makeup of Northern France, stated that, "particularly where the enemy controlled the high ground, tunnels were constructed to allow safe passage of troops to the front from the rear areas." (Rosenbaum, 1989).

The Germans utilized tunnels to their advantage in the same ways as the Canadians did. German tunnels were longer and more sophisticated. To confuse the Canadians, the Germans would dig long narrow tunnels right toward the front line then abandon them. As well as tunnels, the Canadians had to catch up to the Germans with regards to front line trenches. With the Germans having faced three attacks by the French they were able to dig in and make more permanent trenches that defined the front line and no-man's land. The front line and no-man's land during the battle of Vimy Ridge can be defined as:

The front-line trenches of the opposing armies were separated by a belt of contested ground known as 'No Man's Land', usually extensively pitted by shell holes and mine craters. No Man's Land was bordered by belts of barbed wire entanglements which were renewed by wiring parties working under the cover of darkness in No Man's Land. Wire was attached to wooden or angle-iron stakes, or to the ingeniously designed screw pickets, which were less noisy to put in place at night, as they did not require hammering, but could simply be screwed into the soil. (Bennett and Doyle, 1997).

Trenches were used as a safer way to move when in battle, they were spaced anywhere between 10 and 30 meters apart. There were two categories of trenches used in the battle of Vimy Ridge, primary and secondary trench lines (Bennett and Doyle, 1997). Primary trenches

were used for direct combat with the enemy, the troops would sit and then pop-up to shoot and retreat again. Secondary trenches were used to move troops, supplies, and send messages between the primary trenches and tunnels.

Other than digging underground tunnels and preparing trenches, the Canadians spent the weeks leading up to the battle actively training their troops. Another first for the Canadian military came during the training of the troops of all 4 divisions prior to April 9. Troops were trained as machine gunners, riflemen, and grenade throwers. This allowed the soldier to be put in a job that was familiar and felt comfortable. While the troops were going over their drills the officers were in their tunnel bunkers planning out the battle. The officers used the most up to date aerial maps to plan where to shell as well as what position to attack first. According to First World War Historian M. Chassured (1987) "The possession of an adequate series of accurate, large-scale maps was of extreme importance in a largely static war where the area fought over could be measured in metres, and where minute knowledge of the ground was vital. Such information was essential for the effective planning of defensive positions and offensive action, both by assault troops and by artillery." For the Canadian officers, being able to have precise coordinates to accurately shell important German positions was crucial for the days leading up to the Battle on April 9th, 1917.

The days leading up to the battle were filled with the deafening sounds of artillery fire being sent from the allied side in the attempt to loosen the German positioning. The Canadians decided that by using heavy artillery the German front would be beaten down, as well as causing a mental and psychological effect on the German troops. The front line was littered with barbed wire to slow down advancing troops. In previous years of the war, artillery was used as a way to clear this barbed wire, allowing troops to focus on advancing the line.

The Canadians were in command of the battle but received armaments from the British Army. In order to have the right amount of firepower to follow up with the plans to shell the Germans, Canadian Officers requested that the British Third Army deliver 6-inch, 8-inch, 9.2-inch, and 12-inch howitzers (Falls, 1917). These weapons were situated along the Allied side of the ridge, firing onto the German line in preparation for the Canadian attack. On April 8, Canadian troops

entered the tunnels with their gear awaiting the order to fight. The call to leave the tunnels came at 0534 hours the morning of April 9.

Weather on the first day of the battle was rainy, which turned the ridge into a mud field. The Canadians found that despite the days of artillery fire the German lines were still intact which slowed down the advances. The Canadian troops faced three main forms of German defense: barbed wire, machine guns, and artillery fire.

Canadian officer staff attempted to use their own artillery to destroy the barbed wire and machine gun nests, but the German artillery was hidden, and the Canadians were not able to locate and destroy them despite having the best aerial photography of the time. "It took the success of two scientific techniques for locating enemy artillery positions, one was flash-spotting, the other was sound-ranging." (Finan and Hurley, 1997). Flash spotting is when artillery officer's watch for the light emitted by the enemy's artillery. This system to spot the enemy was used by the British because of its simplicity and effectiveness. Sound ranging was drastically more scientific and dealt with the use of sound waves given off by the artillery gun. The British did not approve of the sound ranging method because it was difficult to teach new officers. Through the use of both these techniques, the Canadians were able to suppress the German artillery enough to allow their troops to advance.

The Creeping Barrage

The advancing Canadians were slowed by German machine guns and barbed wire which survived the Canadians artillery from the previous day's attack. To keep the Canadians moving forward, the artillery officers created a new technique which revolutionized the use of artillery. The Canadian artillery division was trained at the British Army Counter-Battery School where they were taught the flash spotting technique as well as the norms of World War I artillery techniques. The training they received did not prepare them for the obstacles faced during the battle of Vimy Ridge. To compensate for this, they invented their own technique.

The Creeping Barrage technique was invented by the Canadian artillery division that was tasked with attacking the German positions on the ridge. The German trenches were filled with deadly

machine gunners and fronted with rows upon rows of barbed wire. Canadian troops were not able to move forward through the barbed wire without the threat of being shot down by enemy machine gunners. To bypass this problem, the Creeping Barrage artillery technique was utilized.

The artillery would fire several rounds of fire into the German line in order to break up as much barbed wire as it could as well as attempt to keep the German machine gunners in their trenches. According to author Albert Palazzo (1999): "Successful counter-battery fire would prevent the enemy's guns from undertaking defensive barrages, thereby greatly increasing the chances of the survival of the infantry as they crossed No Man's Land." Once the shelling stopped the Canadians would rush into the freshly shelled line and take it from the Germans. Historian Bob Gordon (2017) explains the use of the creeping barrage technique:

"With the launch of the infantry assault the Canadian artillery shifted to a creeping barrage. It had 40 separate lifts scheduled. At Zero Hour it concentrated on the German front line; at plus three minutes the barrage lifted from the German front line to the support line; at plus eight minutes it moved to the Black Line, the main German defences. The troops were to arrive at the summit directly behind the last lift, accompanied through the German defences by the destructive power of the artillery."

What made the technique so effective was that the Germans did not know when the shelling would begin or end, giving the Canadians the advantage of surprise. With the use of this new technique and extreme bravery, the Canadians were able to capture and hold the ridge by April 12, 1917. The four-day battle cost Canada 3,598 soldiers and left 10,602 others wounded (Hucker, 2009).

Author William Stewart (2017) cites Canadian Military historian Tim Cook (2008) when referring to the bravery shown by Canadian soldiers as well as commenting on the specific platoon training given to the troops prior to the Battle of Vimy Ridge:

"There were many examples of courageous soldiers taking on a strongpoint with just bombs, bullets, and

bayonets, but a combination of the platoons' infantry weapons and training overcame most of them. As Tim Cook described: The Canadian advance had been irresistible. Infantry platoons, firing on and pinning the enemy down, and then destroying strong points from the flanks, allowed the Canadians to punch deep into the defenders' lines."

This battle changed the tide of the war and gave the advantage back to the allies, as well as giving Canada's military confidence to be able to handle important battles without the leadership of Britain.

A German Perspective

A report from the German Army Chief of Staff, General Karl (Fritz) Von Lossberg, outlines the battle from the perspective of the Germans. The Germans knew that the British would be attempting to capture the Ridge. Following the four attempts made by the French, the Germans were entrenched and tactically ready for an attack. The General knew that the Canadians would have the higher ground and therefore knew where the artillery would be placed to attack the entrenched German lines. In the General's (1917) diary he wrote:

"That meant that the British would push their artillery forward and establish their observation posts on the high ground. That would give them the capability of calling down well-observed fire on all movements in and behind our lines. On the other hand, I recognized that the firing positions of the British artillery, especially behind Vimy Ridge, would have to be far enough back from the ridgeline to achieve the trajectories necessary to clear the intervening high ground."

This shows that the Germans were prepared for the Canadian artillery as well as prepared to counter the Canadian efforts. According to General Von Lossberg (1917), "The British artillery fire subsided during the night of 9–10 April, after which they only conducted fire strikes (Feuerüberfälle) against the German infantry and artillery positions. At noon on 10 April the British resumed their infantry attacks." The German high command here impressed with the creeping barrage technique utilized by the Canadian

artillery units, going as far as attempting to predict the range and accuracy of the artillery guns to prepare their troops.

The General stated in his journal on the day of April 10, 1917 that: "I then estimated the maximum ranges to the east of Vimy Ridge that their artillery creeping barrage (Feuerwalze) would be able to reach. The British had made very effective use of the creeping barrage technique during their initial attack on 9 April." The General's journal discusses the factors that led to the German defeat as well as the plan that outlined the retreat of the German troops. The plan for retreat goes as follows: during the break between the creeping barrage shelling the German would fight small battles as needed but other than that they were to retreat away from the Ridge (Von Lossberg, 1917). Concluding the journal is a passage where the General explains why the Germans had to pull out of the battle during the night of the 12 of April, the General says that: "To do otherwise would expose our infantry to the enemy's overpowering and well-observed artillery fire." The General's journals give more credibility to the effectiveness of the creeping barrage technique as well as the overall effectiveness of the Canadian military during the battle of Vimy Ridge.

Gas Attack?

Chemical weapons were first used by the Germans in 1915 during the Second Battle of Ypres when chlorine gas was released from 5,500 cylinders against the French, Canadian, and Algerian troops (Ede, 2018). During the planning stages of the Battle of Vimy Ridge, the Canadian leadership decided that the use of chemical weapons was an option as a retaliation if the German used them first. Canadian military historian, Tim Cook describes the thoughts that went into the decision to bring chemical weapons into the battle plans as such, "In conjunction with the warning to all troops in the vicinity of Vimy that during the month of April enemy gas attacks might be expected and troops must be on Gas Alert at all times, the first lethal gas shells were being delivered by the 1st Division's ammunition wagons to the waiting Canadian artillery" (Cook, 1998). Colonial (Col.) Andrew McNaughton was the Counter Battery Officer in charge of the Canadian Artillery Corps during the Battle of Vimy Ridge, according to Tim Cook's research Col. McNaughton was intrigued by the idea of chemical

weapons but had no protocol established for the physical use of them during battle (Cook, 1998).

The responsibility to instruct the Canadian Artillery corps with regards to the protocol for using chemical weapons on German infantry and artillery fell to Captain Harris who was the Corps' chemical advisor. The Germans did use chemical weapons during the first day of the battle, but poor weather conditions made them less effective against the Canadians. The poor weather also stopped the Canadians from using the chemical weapons they had stockpiled. According to General Von Lossberg (1917), the lack of effective use of chemical weapons was one area that led to the Germans losing their control of the Ridge on April 12.

Defining Moment

The victory at the Battle of Vimy Ridge is a defining moment for the Canadian military and Canada as a nation. This was the first battle where all four of the Canadian division joined together to defeat the enemy as well as being the first large battle that was led and fought solely by Canadians. From the military standpoint, this victory boosted the leadership's confidence in their abilities to lead, and boosted the morale of the soldiers, despite the loss of life and a large number of injuries sustained during the battle. For the Germans, the battle was seen as an embarrassing loss that resulted from administrative error as well as a misjudging of the Canadian military's ability to fight. The aftermath of the battle included another German defeat at the hands of the Canadians at Hill 70.

REMEMBRANCE

In 1920 the Canadian Government created the Canadians Battlefields Memorials Commission, which had the intention of remembering the battles that occurred in specific spots in Europe by creating monuments that capture the significance of the battle; Canada was granted eight sites in western Europe, five in France, and three in Belgium (Brandon, 2003). In 1921 the Commission selected the submission of Toronto born sculptor and designer Walter Allward (Vance, 1997). By 1922, Allward was living in Europe, and within five years the first limestone blocks were sent to Vimy Ridge, and larger blocks did not arrive until 1931 (Hucker, 2007).

The monument was scheduled to be completed in 1934 but due to construction delays the project was not completed until 1936. July 26 was the day of the unveiling of the Vimy Monument, with over 6000 Canadians in attendance. The monument itself consists of two pearl white pillars that stand 30 meters above the stone structure, one pillar held a maple leaf and the other held a fleur-de-lis, to symbolize the sacrifice made by both countries (Laura, 2006).

There are 20 figures scattered around the monument that were placed there to aid viewers in contemplating the structure. The Canadian National Vimy Memorial symbolizes Canadian national identity as many credible military historians believe that this is when Canada became a nation (Humphries, 2007). During the Second World War, Canada could not do much to protect the Monument, in 1939 Britain assumed control of the area of Vimy and did their best to protect it until they were pushed back to Dunkirk in 1940 (Durlinger, 2007). Adolf Hitler, the leader of the Nazi Party, travelled to the Monument during his tour of France in 1940 and placed the memorial on the list of places which were off limits to fighting to preserve the national monument (Durlinger, 2007). For example, the Eiffel Tower was another such monument that was placed on Hitler's list. Every April 9th there is an international ceremony hosted at the Monument to remember the sacrifices made during the battle. 2017 marked the centennial anniversary of the battle of Vimy Ridge. There was a large ceremony held at the Monument and held host to the Canadian and French Prime Ministers, the Governor General of Canada and Prince Charles, Henry and William from the English Royal Family.

CONCLUSION

The Battle of Vimy Ridge was fought between the Canadians and the Germans between April 9 and April 12, 1917. The Germans had control of the Ridge and had previously faced three French attempts to capture the Ridge. The Canadians spent weeks planning and training in preparation for the heavily entrenched Germans. The Canadians pushed the Germans to retreat through the use of the creeping barrage artillery technique; as well as the bravery of the soldiers of the four Canadian division that worked together in order to capture the ridge.

Following the end of the war, the Canadian Government created the Commission that was tasked with creating something that would be used as a place of remembrance for the Canadian soldiers who gave their lives and were not able to make it home after the war. Unveiled in 1936 was the Canadian National Vimy Memorial which serves as a physical object that symbolizes the sacrifices made by Canadian soldiers during the war. The Battle of Vimy Ridge symbolizes Canadian military ingenuity with the creation and success of a new form of counter-battery as well as being the birth of a nation, Canadian identity was formed out of the victory on April 12, 1917.

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